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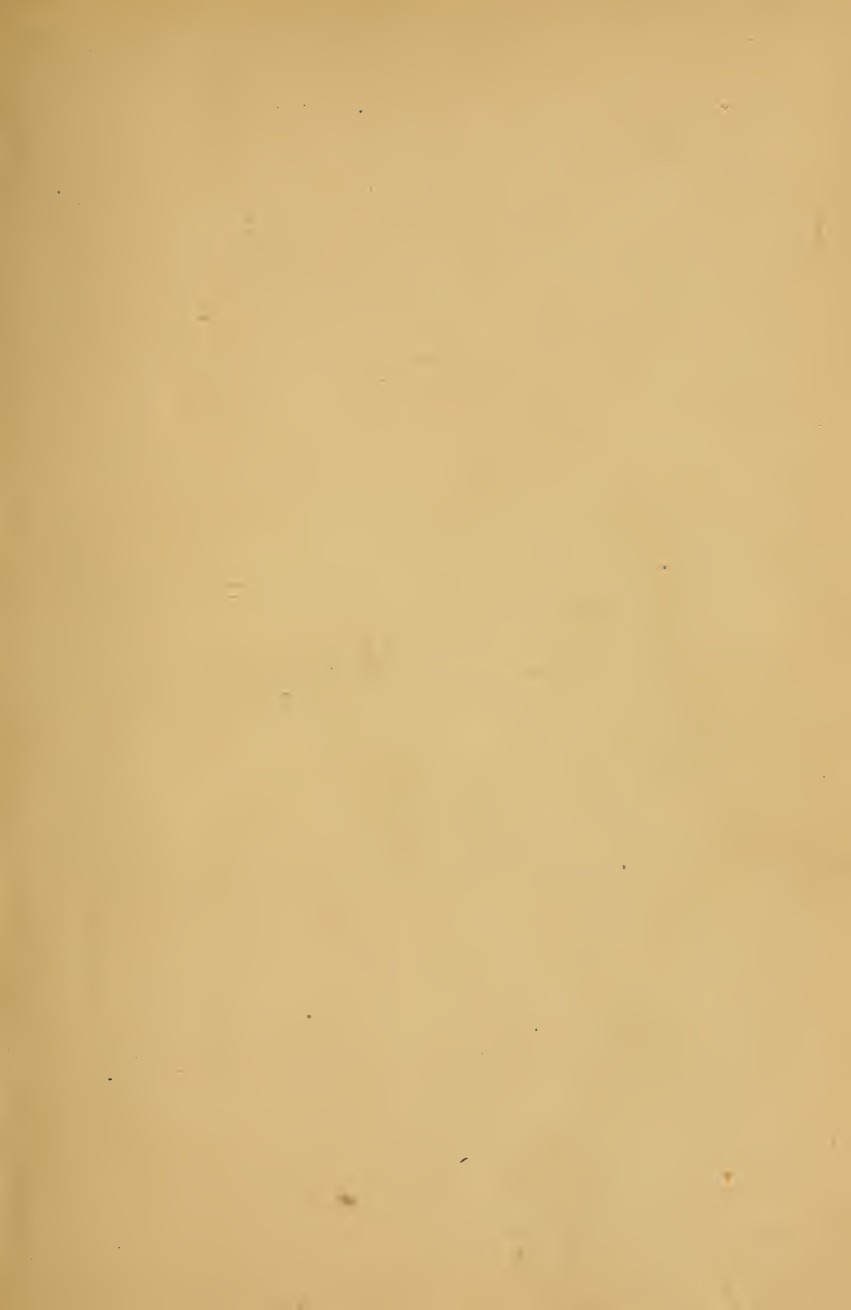
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A NEW

POLITICAL ECONOMY

BY

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DEDICATION.

THIS volume is affectionately dedicated to the several hundreds of former students for whom its studies were undertaken, and to whom, in the author's annual courses of lectures, its chief parts were first presented.

The heart of the author has followed his pupils out into their various careers of honored usefulness, and now sends after them, this publication, so often requested by many of them, as a token of his continued regard for their welfare, and his continued faith in the great doctrines of public well-being which he attempted to inculcate. Reminding them of a pleasant past, may it also afford them fresh pleasure in the midst of present work, and renew within them the generous feelings, thoughts, and purposes of the elder time.

PREFACE.

THE Author presents his work to the fair thinking among his countrymen, and especially to the teachers of Economic Science. This volume is the product of years of combined thinking and teaching, and is offered as a modest contribution to the growth of that science which seeks to explain and promote the industrial progress of the world. It is an essentially new statement of the facts and principles of Political Economy. It may seem absurd to expect any new discoveries in a field whose earliest surveys are recorded in the theogonies of India, Egypt, and Greece, and some of whose grandest features were evidently seen by Moses, Plato, and Aristotle. But, though this field has repeatedly and perpetually been under survey by statesmen, publicists, and philosophers, whose attention has been attracted to the causes of human progress and well-being, it is presenting ever fresh phenomena, with the progress of mankind in arts and civilization, and demands, therefore, ever fresh study and statement. Even if the grander features of the great landscape do not change, one who surveys them from some new hill-top, to which his business or his tastes have led him, may be able to present them in new relations and with a fresh perspective. It is in these new relations and this new perspective that the author believes his book will be found essentially new. The fresh views presented are chiefly the following:

1. The clear recognition of the three great economic facts of Wants, Work, and Wealth, as the principal and constant factors of the industries, and as constituting, therefore, the field of Economic Science.

2. The recognition of man, and of the two great crystallizations of man into society and into states, as presenting three distinct fields of

Economic Science, each having its own set of problems, and each its own species of quantities or factors, to be taken into account in the solution of those problems.

3. A new definition and description of Value, as made up of its three essential and ever-present factors, forming the triangle of Value, and evidenced by the clear explanation they afford of the various fluctuations of prices.

4. The new division and distribution of the discussion arising out of these new fundamental facts and definitions.

5. The aid rendered to the reader and student by the diagrams and synoptical views. These, though somewhat artificial, will, it is hoped, be found to serve as a map to the territory to be traversed, and helpful to a better understanding of the true relations of its parts and divisions.

It was the primary purpose of the Author to present to his countrymen his views upon the subjects discussed. He hoped thus to contribute to the better public understanding of a branch of knowledge of great importance to intelligent citizenship. He has given his book a form adapting it also to the use of the schools and colleges, partly from the force of habit, and partly because he recognizes the truth that, through the schools, ideas flow, by wide and natural channels, into the currents of the nation's life.

Without further explanation of his work, the Author cheerfully submits it to the inevitable and, he hopes, candid judgment of his contemporaries.

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POLITICAL ECONOMY.

CHAPTER I.

WANTS, WORK, WEALTH.

1. Definition.—Political economy is the science of the industries. Its aim is to investigate and explain the nature, relations, and laws of these three constant factors and elements of the industries—human wants, work, and wealth.

Man is a being of many wants. Out of his wants springs his work to gratify them. Out of his work come the goods which he calls wealth. This is the simplest history of human industry.

In this industry, wants, wealth, and work are ever present factors. They are its essential and significant terms, and, with any one of them lacking, industry, in its full meaning, could not exist. Without wants, man would not work. Without work, no wealth could come. If wealth—that is, goods—did not result, no one would work. Thus the three terms are involved in every full idea of industry.

2. Sphere and science of industry.—The industries fill the world. They occupy the daily life of mankind. They feed and support the populations of the globe. They are the primary and principal element in civilization, and they fill the chief chapter in modern history—in all true history. Constitut-

ing the largest and most conspicuous part of the personal life and social connections of mankind, they, more and more, as civilization advances, engage the attention and absorb the energies of communities and of states.

The study of these industries necessarily interests all who care for mankind, and it grows in importance with every advance in their character, and with every enlargement of their sphere and power. It is the study of man and of society, in the largest field of their activities, and in the line of their most potential movements.

The name, Political Economy, given to this science, implies the economy of states or nations, and has been properly objected to as too restricted and inapplicable. Several other titles have been suggested and employed, but this has become familiar by long, popular use, and is now generally accepted as covering the whole field of economic science. It is better to follow the common usage without debate, than to discard a name which, however poorly chosen, a century's use has made significant.

To gain a clear and complete view of this science, we must enter thoughtfully the wide domains filled with the incessant stir of daily working life. We must observe and question carefully all the facts presented by the busy millions of men who are covering continents and oceans with their work, and who are conquering into use and service every form of matter and all the potencies of nature.

We must watch the development of labor, from its rudest beginning in the savage, to its highest achievements in the arts of civilized life. We must follow its triumphs, from the simplest fruit plucked by the child, to its mighty outcome in the commerce of cities, empires, and peoples.

All the phenomena found in this great field, innumerable and varied as they are, will be seen to spring from a few simple forces, and to be controlled by a few principles, which it is the business of political economy to trace and describe.

3. The factors described.—The first step in any science is to discover, if possible, the simple, elementary facts. If we look steadily into any part of the field before us, we shall see, gradually emerging from the wide confusion, the three primary facts named at the head of this chapter. The entire mass of phenomena ultimately resolves itself into these three. Throughout the whole field, and at each point, however simple, or however complex, the economic appearances, there will be :

1. *Man's wants.*—These are the impelling forces which push forward the entire movement, and give direction and meaning to it all. They include the endless range and the ceaseless repetitions of human needs, desires, tastes, and appetites, physical or intellectual. They are the basis of all market demand—the compelling reason and final purpose of all industrial effort.

2. *Man's work.*—This includes the actual movements in all arts, trades, and business. It comprises all the efforts which men make to create, procure, preserve, transport, or exchange the objects which satisfy their needs or gratify their desires—to secure pleasure or avoid pain. It covers the whole procession of industrial acts and efforts, of body and mind.

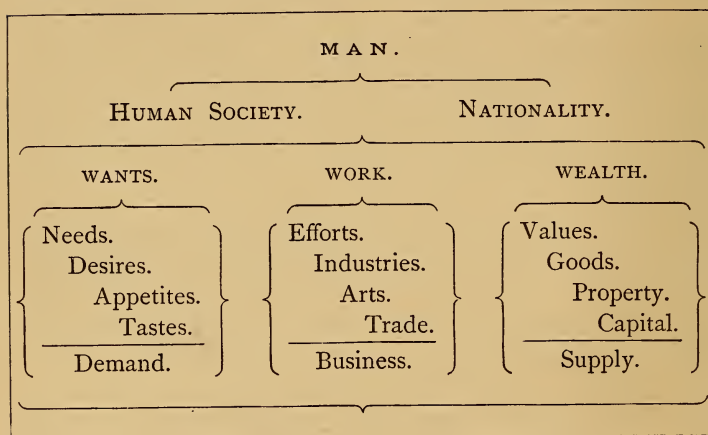
3. *Man's wealth.*—This embraces all the products of work. It includes the great mass and countless forms of goods and possessions which come from the labor and tempt the cupidity of mankind, and which are the purposed aim and objects of all industrial efforts.

The word wealth is used, in political economy, to denote goods or valuable things, without reference to their quantity. In common speech, it usually implies an abundance of such goods. It is sometimes employed for natural resources, as the wealth of the soil or of the sea. Some economists have objected to its use because of this variety of meanings; but we must reject all common words if their loose colloquial or poetic use is allowed to spoil them for scientific purposes.

4. **Field of economic science.**—These three world-wide facts—want, work, wealth—thus understood and considered, fill the entire field of political economy. They are the fundamental facts with which the science is concerned.*

To impress this field more clearly at the outset upon the mind, let it be represented to the eye by the following diagram:

FIELD OF POLITICAL ECONOMY OR ECONOMIC SCIENCE.



In each of the primary facts, man must be understood as a constant and potential presence. It is not simply abstract wants, work, and wealth that economic science has to do with, but the humanity connected with them. It is the wanter and his wants; the worker and his work; the owner and his wealth. Man stands at the beginning of political economy. Man, in

*Years after the author had made and presented this grand division of the subject to his classes, he met, in the "*Harmonies Economiques*," by Fred. Bastiat, Paris, 1850, the sentence, "Wants, efforts, satisfactions—this is the circle of political economy."

his great social and national organizations, stands at the end of it. It rises with his wants; it ends with his satisfactions. It sustains and penetrates his civilization, and is penetrated by every department of that civilization.

5. Relations of the factors.—It is also important, and will prove useful, to note some of the more striking features and differences of these facts.

1. Wants are motive forces. Work is productive movement. Wealth is material result.

2. Wants determine the work to be done, by determining the products wanted.

3. Wants exist in the mind alone, and can not be definitely measured. Work is force in action, and can only be measured by its results. Wealth is the material product of work and the object of desire, and takes its measure from both.

4. Wants are original. The others are derivative. Work is want in struggle and conflict. Wealth is want in victory, in satisfaction, and repose.

5. Wants look beyond work to its results. They intend wealth as their object; they accept work as a means.

6. The economic circle.—Some of the more important relations and reactions of these several classes of facts may be usefully represented to the eye by arranging them as sectors of a common circle—the great circle of man's industrial life. Each sector limits and is limited by the other two.



In the natural or historic order of movement of our circle, indicated by the arrows in the diagram, wants impel work; work produces wealth; wealth satisfies and stimulates afresh the wants.

But there is also a line of reactions moving in the opposite direction. Wealth once in existence aids and stimulates work;

work, by its threatened hardships, often represses desires; wants, by their presence, give to wealth its values. These actions and reactions are constantly at work in the business world, and account for much of the phenomena it presents. As they will be more properly discussed in a coming chapter, they are not followed further here.

7. Sectors of the circle.—Each sector in this economic circle both separates and unites the other two.

1. Between wants and wealth lies the work necessary to their meeting. What a man wants he must work for, or give in exchange the products of work already done by himself or another. Work is the efficient mean between wants and their gratifications.

2. Between wealth as a good to be coveted, and work as an effort to be dreaded, come in wants, lending new attraction to the object they crave, and new stimulation to the efforts they inspire. Wants constitute the reconciling means between a feared evil and a desired good. Men overcome their native indolence and go cheerfully to their toil so soon as their desire for the goods to be gained becomes strong enough.

3. Between wants as conditions of disquiet, and work as a condition of drudgery, the goods of wealth come in, giving force and activity to desire, and lessening the dread of toil. The impulsion of wants is thus helped to overcome the repulsion of work, and the antagonism between them is for the time destroyed.

All these statements are only so many different aspects of the same fact—the close interdependence of the three facts of want, work, and wealth. But each one of these aspects has its place in the history of industry. Sometimes the wants to be satisfied will seem to be the prominent and controlling phenomena; at other times work will fill the foreground; and, in other cases, the vision of the wealth concerned will throw both the others into the shadow. A failure to hold their

strictly reciprocal character in mind has produced much confusion of thought.

8. The three names of economic science.—From the mutual relations and union of these three great factors of political economy, it is evident that the science might take its name from either one of the three. Thus, we might call it the science of man's economic desires or wants; or the science of work or of the industries; or, finally, the science of wealth. Under either title we should be led into the same field, though entering it on different sides. Thus, in discussing the economic wants—that is, the wants whose gratification demands effort—we must necessarily consider the wealth which satisfies these wants, and the work which produces it. So, also, if we undertake the study of the industries, we must take into our view the desires which give aim and impulse to these industries, and the wealth which it is their object to create.

The title, "*Science of Wealth*," has already been employed by J. B. Say, and by Count Pelegrino Rossi, his successor in the chair of political economy in the College of France; and it has been taken as a title for their books, by Prof. A. Walker, and Prest. Sturtevant, in America.

From another point of view, J. Stuart Mill, De Quincey, Prof. Bowen, and others, have defined political economy as a mental and moral science, because built on the action of human desires, and taking its laws from them. These economists would name the science from its causes or forces, as the others would from its effects or results.

We might, with the same propriety, name it from work, the series of activities which lie between the cause and effect. The title, *Science of Work*, or *Science of Industries*,* would

*The Dictionary of Political Economy (Dictionnaire de L'Économie Politique, Coquelin & Guillaumin, Paris, 1873), under the question, "Is wealth the object of economic science, or is it industry, the source of wealth?" says: "C'est en réalité le travail humain, l'industrie humaine,

need no more explanation to show its application to the field of Political Economy than does that of Science of Wealth.

It is an obscure survival of the old feudal sentiment which worshiped wealth, but despised the labor which produced it, that prefers the title "Science of Wealth" to the "Science of Work." Certainly, to the unprejudiced eye of the statesman or philanthropist, wealth is neither so conspicuous nor so significant a fact as the marching armies of labor—the great fighting columns of industry. The man is greater than his possessions. The worker is a more important fact than the products of his work. The real business of economic science is to comprehend and guide human industry. It is the gospel of work, not merely of wealth.

Since no single word can be found which will express at once, and in their true relations, the three chief elements and fields of our science, we must content ourselves with the old name, political economy, putting into it, as we find them, all the truths and meanings which the science embraces.

source des richesses, qui fait l'objet des investigations économiques." It is, in reality, human labor, human industry, the source of wealth, which forms the object of economic investigations. Vol. I, p. 651. On the following page, the writer calls political economy: "La science des lois du monde industriel"—the science of the laws of the industrial world. And he adds that this title seems to him "nobler, more comprehensive, and more exact."

CHAPTER II.

THE THREE ECONOMIC SCIENCES.

9. Man in economic science.—We advance now to a nearer view. The three world-wide, fundamental facts—human wants, work, and wealth—have been shown to constitute the broad field of economic science. We are now to see how this science divides into three.

We have affirmed that man must be understood as a constant and potential presence in political economy. The science begins and ends with man—the wealth-seeker, the wealth-winner, and the wealth-owner. Hence, whatever great natural laws of development, organization, or change affect humanity will also affect the laws of man's wants and industries.

10. Mankind, society, nations.—Man appears to us under three great natural aspects: 1. As mankind, or the aggregated humanity; 2. As human society, organized under the power of certain natural affinities and needs; 3. As nations organized for political ends and under political laws.

Under the first we have simply the human herd—the great mass of individual beings, each with the simple wants, capacities, and powers of a human being. Under the second, the herd appears organized with all the wants and conditions of organized society added. In the third, we find the compact body politic—a sort of political person called the state, including in it individuals, and including also all phenomena of society.

Each of these three aspects, or conditions of humanity, has its own economic phenomena and laws. Political economy,

therefore, will be marked by the same broad aspects and divisions, and will give us three sciences instead of a single one.

Adopting for these sciences names already in use, though with a modified signification, we may style them:

1. The Science of Value, or pure economics;
2. Social Economy; and,
3. National Economy.

11. Pure Economics.—If we study the industrial life of mankind, separate from all consideration of social or national conditions and divisions, we shall obtain a science of pure economics, which we shall call the Science of Value. The name is not without objection, but the term value, more nearly than any other of those sanctioned by use, covers the whole phenomena of economic life. The real meaning of this term—value—will be shown in another chapter.

The scope of this science has already been partly shown in the preceding chapter. It is the natural history, as it were, of work and wealth. It embraces all the phenomena which naturally arise out of the relation of the three great economic factors, want, wealth, and work. Like all pure sciences, it deals with general principles and laws rather than with particular applications and phenomena. It is that science of political economy which so many modern writers, like Smith and Quesnay, Say and Mill, Rossi and Senior, Wayland and Carey, Walker and Bowen, have attempted to develop, and which seeks to know all the laws that center in the notion of value, and go out from it to influence human affairs.

12. Social Economy.—If now among the facts and principles of this science of value we bring in human society, with its social forces and necessities, its various social ranks, classes, and conditions, its poverty and riches, its learning and ignorance, its masters and servants, its capitalists and laborers, its dependent childhood and its sustaining parenthood, its crimes and charities, its homes, churches, and schools, it is clear that

a new set of economic phenomena must arise, and new conditions and problems appear, unknown to the pure science of values. New wants will emerge, new conditions of work will arise, and wealth will be found reacting powerfully among the social forces, and taking on new functions as a social factor. We find ourselves studying a new science, or, rather, an application of the old. This applied science we call Social Economy.

The name is not new. Several writers have seen this large social side of political economy, and have chosen the name social economy as expressing best their view of the general science.

13. National Economy.—Now let mankind be separated into different nations. Let the differences of race, of language, of territorial position, of climate, industries, and civilization come into the field of our pure science of values, and, behold, another change has occurred in its limits and phenomena. Another set of facts, forces, and conditions appear, and new questions and problems arise. Our great primary factors of wants, work, and wealth take new and strange aspects. To personal wants of individuals are added wider national wants; the industries assume a national character and import; and private wealth becomes tributary to national power and purposes. We confront another field of economic science, which we may not unfitly call National Economy. The name is not new, though it has not been employed in the limited and precise sense here given to it.

14. The three sciences contrasted.—These three economic sciences, though they have many principles in common, yet differ in much. As already stated, the first may be called the pure science, dealing with fundamental and universal facts, and remaining true in all times and places. The other two are mixed, or applied sciences, and vary with each new condition of the society or nationality involved.

The Science of Value concerns itself only with the factors of

want, work, and wealth. It seeks to determine the nature, origin, changes, and laws of distribution of values. It wishes to know general principles and universal laws.

Social Economy studies the industries as social phenomena, and wealth as a social force. It takes into its account the relations of work and wealth to the growth and well-being of society and its various classes. It admits to its view a large number of social wants.

Social Economy is properly a chapter of social science. Its problems have two sets of factors: the one social, the other economic; and the solution of these problems necessarily involves the principles of both social and economic science. The answer of the pure political economist to the questions of socialism, are rarely or never satisfactory to the true socialist.

Among the problems of Social Economy are those of wages, of the relations of labor to capital, of population, of pauperism and public charities, of education, of the economic aspects of intemperance and crime, and of many of the questions of socialism and communism. Some of these problems belong, also, in part, to national economy or to general politics.

National Economy discusses wealth as a national resource, and as an essential condition of national life, power, and well-being. It studies the industries as matters of national concernment, and as connected with national character and progress. Its aim is the good of the nation, and it is, therefore, a segment of political science.

Its problems have a political as well as an economic side. It accepts the science of value as one of its bases, but it insists on the laws of national growth and power as the other. The mere economist is often an unwise statesman. His economic theories too often neglect or discard the facts and needs of nationality.

The problems of national economy include such as those of tariff and foreign trade, of taxation, of bounties and protection to industries, of international commerce, currency, of banking

and money, of public education and public improvements, highways and water-courses, and of public revenues and public lands. Other economic questions sometimes assume a national aspect and become questions of national economy. These problems are often counted as belonging to the statesman rather than to the economist, but statesmanship must look to economic science to aid in the solution, if not to give the complete answer. The statesman has no other means of solving them than has the economist.

15. Importance of the division.—This threefold division of economic science is important; and, if made earlier, might have saved political economy from much of the confusion seen among its writers, and not a little of the reproach thrown upon its teachings. It is obvious that questions of social economy, or of national economy, can not be properly answered by the abstract principles of the science of value alone. As well seek to settle a question in mechanics, or in accounts, by the simple rules of arithmetic. It is true that the aid of arithmetic must be called in before the final answer to the mechanician's problem can be had; but there are questions of force, velocity, and direction, or of materials and of proper mechanical devices, which must be determined before the computations of numbers can begin. The most difficult part of the problem must often be answered before the aid of arithmetic is invoked. No accuracy in numbers can give a true solution if an error has crept into the first part of the work. So the problems of social and national economy involve, in their solution, the principles of pure economic science; but they involve also principles of social and national life, and no correct answer can be obtained without taking these into account. As a familiar and conspicuous example, take the question of a protective tariff. Properly it is a problem of national economy, and can only be solved as such. The various attempts to settle it as a question of political economy have filled the world with endless if not useless debates.

16. The three sciences mingle.—It may not be necessary, nor indeed always possible, to treat these three great branches of economic science separately; but it is important to recognize distinctly the fields which they occupy, and the special conditions and problems belonging to each. The common facts of humanity, society, and nationality are interwoven in so many threads and figures that it may seem impossible to trace their separate influence; but the different visions which these names summon before the mind prove that each has features not common to the others.

In each, the facts of want, work, and wealth fill a large part of the field. Neither society nor nations could exist without the support of labor and its products. To promote labor and to protect its products are, indeed, among the chief aims and duties of society and the state. There are few great social or national questions which have not an economic aspect or factor. Social and national economy constitute the largest chapters in social and political science. That they are also the most abstruse and difficult parts of those sciences does not lessen, but rather increases their importance to the patriot statesman.

17. The division authorized.—This classification of political economy, though new in the form and importance here claimed for it, is not without support in the writings of eminent economists. In the wide landscape of industrial fact and movement, some observers have caught sight of one of these fields, and some of another; but the common disposition has been to show that the field seen is the entire territory instead of a single section of it.

As in the case of the three great primary elements—want, work, and wealth—some economists have taken one, and others another, of these fields as the all embracing territory of the science. Thus we have had political economy presented by some as national economy, by others as social economy, and by others still as the science of wealth. And each of these has been counted as including the whole science of political

economy. Or, as has, perhaps, more frequently happened, the common name of political economy has been retained, while some have defined and treated it as the science of wealth, others as national, and others still as social economy.

18. National Economy first.—Among the earlier writers, political economy was almost exclusively national economy. They were usually statesmen or publicists, and they were led to the study by national exigencies, such as the decrease of the public revenues, the increase of national expenses, the prevalence of pauperism, or by some national crisis in finance or industry. It was the struggle of nations loaded with debt, and envious of the prosperity of their richer neighbors, which gave impulse to the study of political economy. Labor itself was too much despised as the degrading drudgery of the brutish and enslaved mass to excite the attention of great thinkers. Only the glittering wealth which came as the sweet fruit of this menial toil, and was plucked and enjoyed by nobles and monarchs, was considered as worthy the study of statesmen. Colbert, the great minister of Louis XIV., studied, it is true, to promote the industries of France, because he saw clearly that to increase the taxes he must increase the tax-paying power of the people. But his master showed how little he comprehended the wise policy of his minister by driving out, without scruple, by the revocation of the Edict of Nantes, hundreds of thousands of his most industrious subjects.

Adam Smith, who has been accounted by many to be the founder of the science, entitled his work, "Inquiries into the Causes of the Wealth of Nations." The German and Italian economists have usually preferred the title national economy to that of political economy. Professor Wm. Roscher, one of the latest and ablest of the German writers, returns to the name political economy, but defines it as treating "chiefly of the material interests of nations." In another statement he gives the science the broad field here claimed for it. "Like all the political sciences or sciences of national life, it is concerned, on

the one hand, with the consideration of the individual man, and, on the other, it extends its investigations to the whole of human kind."

The most conspicuous aim of political economy is, doubtless, the general wealth and well being; and as these have their most conspicuous feature in the national prosperity, it is not strange that this aspect of the science should be most noted. And thus political economy is thought of as a study for statesmen and publicists, rather than one for business men and for students of social science.

19. The science came next.—The desire to find a scientific basis and form for the study, led to more careful observation of the nature and laws of values, and of the forces by which values are produced. The discussions shifted from the field of national economy to that of the science of values, or of wealth, preferred as a more general term for the aggregations of values. The name, political economy, still retained by most writers, was now defined as the science of wealth, but it was still made to cover the questions of national economy, as chapters of the more general science.

Adam Smith, of England, Jean Baptiste Say, and his successor Count Pellegrino Rossi, of France, followed by the eminent English economists, Ricardo, J. Stuart Mill, N. W. Senior, and by a long line of eminent names of European and American writers, have given their strength to the development of this science of values, though they differ much both as to the exact limits of the field it should cover, and as to the meaning and import of such words as value and wealth.

With this recognition of the scientific character of political economy came a host of controversies which have injured the credit of the study and retarded its progress. These controversies, though seemingly endless, reduce readily to three main questions.

20. The questions and answers.—1. As to its field: Shall political economy embrace simply the laws of values or

wealth, or shall it include also the phenomena and laws of social and political life?

2. As to its nature: Shall it rank among the material and historical sciences, or among the mental and moral?

3. As to fact: Is it properly a science at all, or is it merely the art of good management, personal, social, and political?

To quote the opinions of the great authors upon these questions would occupy a volume. Let us rather present the simple and easy answers afforded by the analysis offered in these two chapters.

1. Political economy, as the pure science of values, studies the laws of value as they are presented under the three categories of want, work, and wealth. In its two applied branches of national economy and social economy, it covers the laws of national and social well-being as far as these depend upon the element of wealth.

Count Rossi recognized this difference between pure and applied science in political economy, and relied upon it to reconcile the dispute that had arisen as to the proper scope of the science. But he did not sufficiently insist upon it, nor give to the two their proper limits.

2. Pure political economy, or the science of values, is clearly a mixed science, taking into its survey the purely mental facts of want and desire, and the material facts of work and goods. If we must resort to the mental phenomena to explain the material, we must equally resort to the material to explain the mental. If the dollar without the desire for it is worthless, and therefore not economic, the desire without the dollar, real or possible, is powerless and also uneconomic. Both orders of facts are essential to the full science.

3. The question whether political economy is a science, depends upon the definition given to the word science. As commonly used, the word science may mean: 1. The facts in some one field of knowledge referred to their proper laws, and accounted for by those laws; or it may mean: 2. A branch of

knowledge so thoroughly worked out and systematized, the sequences of facts so determined, that it is possible to predict the result of any given set of facts observed. It is obvious that these two meanings differ only in the degree of advancement obtained by the knowledge in question. Few, if any sciences, have attained the standing required by the last definition. All knowledge is scientific if it refers its phenomena to the great natural laws from which they spring. Political Economy traces its facts to the mental and social laws and forces from which they spring. Its phenomena are the effects of causes, more or less perfectly understood, and are controlled by natural laws as fixed and uniform as the laws of physics. They may be more difficult to trace and comprehend, but this does not destroy their scientific character; it only shows the science to be harder to learn and apply.

If the question of character lies between considering it as a science or an art, the answer is still easier. All arts reach back into some science from which they draw their principles; all sciences have their arts in which their principles find application. All good management, whether personal or national, is based upon some theory, more or less distinctly understood; and every theory assumes the existence of fixed underlying principles or laws. "All political rulers," said Prof. G. K. Richards, of Oxford, "whether they recognize the fact or not, are, of necessity, political economists. On some principles of economy, true or false, they must needs act."

The difficulty of the science and of its applications, is admitted without debate; but this difficulty has been vastly increased by the failure to recognize the distinctions between the three great branches of the science insisted on in this chapter.

21. Rise of Social Economy.—As modern revolutions in government and society brought the working people gradually into power and honor, the students of economic science began to pay more attention to the problems of social science. Profound questionings arose among the people themselves, as to the

nature of property and the rights of labor and capital. A widespread unrest manifested itself. Strikes and labor insurrections appeared; and organizations spread throughout the working world, aiming to introduce great economic and social revolutions. Political economists felt themselves called upon to examine the new problems proposed, and a new science appeared—that of Social Economy.

The present tendency of economic science may be said to be in the direction of social economy. It is, however, linked closely with national economy. Thus, in our country, the late Henry C. Carey and his followers of the Philadelphia School of Economists are chiefly social economists, though Prof. R. E. Thompson, one of the most recent expounders of its doctrines, calls his book “Social Science and National Economy.”

In France, where the questions of social organization have engaged most attention, the title, Social Economy (*Économie Sociale*), proposed by Say, has been employed by E. About and others. Prof. J. E. Thorold Rogers, of Oxford, has also used this title, though both About and Rogers properly limit the term to real social economy, and do not extend it to the entire field of economic science, as the term national economy has been extended.

22. Other divisions possible.—Thus all the three grand divisions of political economy have been recognized by eminent economists, though not, perhaps, in the exact limit and relations claimed for them in this chapter. It is further evident that if this division exists in nature, its recognition is essential in our studies. To put together those things which nature puts asunder, can produce nothing but confusion and errors.

It matters little that our three sciences mingle with each other on their borders, and that they have many principles in common. This is true through the entire realms of human knowledge, because it holds through the entire domains of being.

“All are but parts of one stupendous whole.”

Physics includes half a dozen sciences, each of which has something in common with all the others. Physics, chemistry, biology, and geology, though separate sciences, have large areas of common ground. Each borrows principles and truths from the others.

The progress of all true science has resulted in subdivisions of its territory. The ground originally assigned to one science has been found to include two, or ten even. Economic science is certainly no exception, and a full discussion of it may require us to still further subdivide its territory. Indeed, a sort of cross-sectioning of it has already commenced, and we are furnished separate treatises on some of its chief sections, such as Banks and Banking, Money and Currency, Labor, Wages, and Land. A different subdivision will give us the economy of agriculture, of commerce, of manufacture, and of other great departments of industry.

23. Certainty not necessary to usefulness.—Economic science shares the uncertainty that attaches to all those in which the human will enters as a factor. This factor takes it out of the rank of the mathematical and exact sciences, but by no means discredits its utility or its claim to be treated as a science.

As in the case of meteorology, geology, and many other sciences of cosmic or cosmopolitan forces, its field of observation is too wide, and its phenomena are too complicated for the present powers of man; but this is a confession of its difficulties rather than a proper charge against its scientific character.

The popular objection to political economy, that it fails to furnish infallible rules for the guidance of business men and statesmen, is no more just than would be the same objection urged against the boasted common sense which serves mankind so much, but which can furnish no infallible rules for the direction of its possessor or of others. The common sense is nothing but unwritten science, and science is only the common sense of truth and fact reduced to writing. The master of common

sense may, sometimes, understand the facts more clearly and profoundly than the scientific writer, and in this case the common sense view, so called, will be better and truer than the written science, because more truly scientific.

If common sense is useful, it is useful through its clear perceptions of the facts and truths in question, and the more clear and complete this perception, the better and more useful the common sense. But it is folly to contend that the unwritten perceptions and judgments of the common sense are useful for the guidance of statesmen and business men, while the same judgments and perceptions, carefully classified and plainly written, are useless. If economic science and the plain common sense of experienced practical men do not agree, as far as they cover common ground, it is because one of them is false. And the false one is not science, for all true science is true.

We affirm that economic science, like meteorology or any of the incomplete sciences—like common sense—is useful as far as it is known and established. It has already modified and improved theories of government, and has changed the features of the social and industrial life of the world. To no other science can mankind look for future guidance in the great struggles for economic progress and amelioration.

CHAPTER III.

THE TRIANGLE OF VALUE.

24. The natural history of value.—We approach now the science of value, or of the industries which produce value. It is the science of human want, work, and wealth. But these three every-where group themselves around a central fact, which may be symbolized by a triangle—the triangle of value.

The world is full of work. Every-where appear the toil and struggle of millions—toil of hands, of brains, and of helping machinery. This is the perpetual and most conspicuous fact in the daily life of humanity. Now for what is all this toil? Plainly to produce the objects which may satisfy human wants—objects which can support life, gratify desire, and give pleasure, or prevent or lessen pain.

This toil has been abundantly successful. It has produced more of these objects than are needed to satisfy the present wants of mankind. Gradually have accumulated great stores of such objects—of foods, cloths, tools, machinery, houses, cultivated fields, domestic animals, and innumerable things of use or beauty.

But these great accumulations do not exist as a common stock. They belong to owners—to those who made, or bought, or inherited them. Why they so belong is a question for another chapter. The belonging is a fact; and only the owners have the right to use and enjoy them.

But now the toil and struggle still go on. Notwithstanding the accumulations, the toilers still labor to produce useful ob-

jects, though it is with a partly changed purpose. They toil to produce something which they may exchange for some part of the accumulated goods.

This is the simplest history of those objects which men call *goods*, because they benefit or do us good; *commodities*, because commodious, or helpful to man's needs; *products*, because brought forth from antecedent wealth, or work; *property*, because they belong to owners; *merchandise*, because men sell them.

Thus, toil which started with the purpose of gratifying a desire, comes finally to seek, as one of its chief aims, the means of buying the goods already existing. Accumulation is a stronger motive than present gratification, for accumulation has the promise of all future gratifications in it.

25. Three requisites of value.—But what kinds of objects must men offer for the purchase of goods? First, something useful; for surely no sane man will give a good and useful thing for one that is neither good nor useful.

Second, it must be something which can not be produced or procured without labor or difficulty; for men will not give that which has cost labor for something which they can get without toil or trouble.

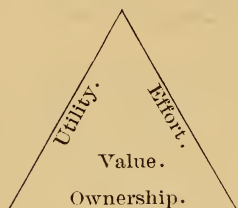
Thirdly, it must be something that can be owned or possessed; for one will not give that which he owns for a thing which he can neither own nor sell.

If any one of these qualities be lacking, the object will not sell. If all are present, the object is said to have value. Men desire it, and will give other goods for it. Such is the plainest and simplest account of value. Every child that runs an errand for a penny unconsciously recognizes value. It is in the thought of every day-laborer. It makes a part of every bargain, whether for a mouse-trap or a gold mine.

But value which is thus central in all trade and business, is also central in all that science which attempts to explain trade and business.

We seek first this central fact or entity—this triangle of value—whose three sides confront and unite the three great facts and factors of the industrial, business world. The key to our science must be found in that.

26. The sides of the triangle.—Value is made up of three essential notions or elements:



1. Utility, or the power to gratify desire—to give pleasure or avoid pain.

2. Effort, or labor required in procuring or producing the article valued.

3. Ownership or appropriation.

These three constitute the sides of a triangle, in which each side is essential, and neither can be removed without destroying the triangle. All value is thus threefold or three-sided.

The discussion of this triangle will prove not only the essential character of the three elements of value, but also their central relation to the great facts of the industrial world.

The question whether value is a quality of objects, or a simple conception of the mind—a question so learnedly and so laboriously discussed by eminent economists—is of little practical importance. The simple truth, as the business world conceives and acts upon it, is this: Value is a complex fact made up of three elements, one of which, utility, is conceived as residing in objects, and the other two, effort and ownership, are thought of as material or external relations. These latter do not appeal to the senses as facts of form, color, or weight, and they are, therefore, necessarily mental concepts; but they are always conceived as attaching to matter.

The complex nature of value, once fairly recognized, will end much of the debate which has arisen from the attempt to define it as a simple notion or fact.

27. Utility described.—Utility, the first side of our tri-

angle, is the first quality thought of in the production of values. It is generally, also, the first considered in trade. Of what use is it? What is it good for? How much of good is there in it? These are the first questions asked or thought of in ascertaining both the fact of value and its amount. If the object lacks all power to satisfy, directly or indirectly, any human want, desire, or taste, its value is at once, and with certainty, denied. It may have cost immense labors, like the deserted fortifications of some old battle-field, but if it is now without use, if no one desires it for any purpose whatever, it is without value.

Utility must here be taken in its broadest sense. It includes not only the power to satisfy want, to give pleasure, to procure a good or ward off an evil, but to serve any purpose of man, society, or the state, in the present or coming time. Utility must often pass through several steps before it reaches a human desire. A fertilizer is useful to enrich a meadow; the meadow is useful to produce hay; hay is useful to feed horses; and horses are useful to do service, or to afford power for further production. From the fertilizer to the man are several steps; but it is the final step which makes all the others count. It is the human want or desire which lends value to them all.

Some economists have chosen to employ the word service as a broader term than that of use, and as including both the usefulness of goods and of persons. But this breaks down an important distinction, and twists the word service out of its plainest meaning.

Utility makes up so large a part of value that the two words are used in common speech as synonymous. Men talk of the value of fresh air, meaning simply its usefulness. But they are themselves conscious of the different sense in which they use the word when they speak of the value of a gold watch. Let them be asked what is the value of pure air, and they will tell what it is good for; but ask them the value of the watch, and they will reply, a hundred dollars. In the one case, value is used for utility, and in the other it means the real cost or

price. In business and in political economy it always means the worth, including utility and cost.

Adam Smith and other economists have tried to rid their discussions of the ambiguity growing out of this double use of the word value, by discriminating between "value in use" and "value in exchange." Chapters have been written to show that the former is simple utility, and is not the same as the other. The device of substituting a phrase for the word is awkward in form, if not also incorrect in fact. "Value in use" can only mean useful in use, a tautology which comes near being an absurdity.

It is better to reclaim the word at once to the only meaning it can have in economic science, as covering the complex idea presented in our triangle. If the student, after a simple explanation, can not thereafter distinguish between utility and value, he should be sent back to begin his education.

But while value differs from utility, let it be carefully noted that it does not exclude it. There is no value without utility. Value is utility and something more.

Water has high utility, but not, commonly, any value. Let it become scarce, and so require labor to obtain it, and the owners of water find it valuable, and get a price for it.

28. Effort defined.—Effort, the second side in our triangle, and the second element in value, includes all labor of mind or body—all exertion of strength or skill needed to procure or produce the object of value.

How effort enters into value is easily shown. What can be had for the taking, and without effort, men will not buy. Such objects cost nothing and carry no price. Sunlight is vastly better than gas light, but no man offers sunlight for sale, or thinks of it as a commodity. It comes without effort, and is enjoyed without cost. Whatever has cost effort to procure, or would cost effort to replace, the owner will not part with, except for an equivalent.

All effort is more or less painful or exhausting, and men will

not undertake efforts without compensation. The pain or trouble of the effort is weighed against the gratification to be gained by it.

All value represents effort or labor. In general, all value is produced by labor. In some cases the utility is the result of the labor, and in others it is the product of nature, and collected by labor. The utility of a watch is given it by the labor bestowed upon it; the utility of an apple is its natural quality. In each case the value is due to the labor, or, in other words, the labor must be added to the utility in making up the value. If the first question to be asked concerns the utility of an object, the second as certainly concerns the effort necessary to obtain it.

In the place of effort, J. Stuart Mill and others have chosen to consider the "difficulty of attainment" as the true element in value. Properly, neither of them reside in the object, but both stand related to it. The difficulty of attainment represents the obstacles to be overcome; the effort represents the pain or trouble of overcoming them. The one involves the other. The efforts must equal the difficulties. Each in turn will naturally be in mind, in thinking of value. In estimating the value of a fish, or of a rare work of art, the difficulty of attainment may be first thought of; but in valuing manufactured goods, or ordinary commodities, the effort required in their production is uppermost in mind. It seems clear that most commonly, if not also most naturally, the efforts are counted as the element of value.

N. W. Senior, an eminent English economist, regarded scarcity as an element of value. But scarcity is only one of the forms of difficulty of attainment. Gold in the mine is difficult to obtain, because of the rocks to be removed; but diamonds, in the sands of Golconda, are difficult of attainment because of their scarcity. Whatever increases the effort necessary to gain any useful or desirable object will add to its value, whether it be obstacles or scarcity.

It is obvious that the efforts to be taken into account in

estimating value, are not those which were actually expended in producing the object, but those which would now be necessary to produce or replace it. In the oft-used and well-worn illustration of the man who found a diamond in his path, the jewel was priced not according to the effort which it cost him to pick it up, but according to the effort which it would, on the average, cost him or others to find another like it. This average effort required is supposed to be indicated by the price put upon diamonds by those who work the diamond mines as a business.

The effort expended by the producer saves effort to the purchaser. The producer may still think of his own effort in counting value; but the purchaser will naturally think only of effort saved.

Both parties will, in fact, compare his own efforts saved and expended. The producer or seller compares the effort it cost him to produce or procure the goods, or that which it will cost to reproduce or replace them, with the effort it would cost to produce or procure the goods or money offered in exchange. The purchaser compares, likewise, the efforts required on his side to produce the goods, and those which the means of purchase have cost or will cost.

29. Ownership defined.—The two elements, utility and effort, may seem at first to be the only essential ones. They have been treated as such by De Quincey, Mill, and others. But a little observation, or a fresh appeal to the business world, will reveal another.

In actual life, ownership is always thought of as a part of value, or, at least, as one of its essential adjuncts. No one will purchase what he can not own. The word property, in the sense of something owned or appropriated, is used as a common name—the commonest, perhaps—for all objects of value. The very notion of all purchase is that of gaining rightful possession or ownership. Honest men will not, knowingly, buy stolen goods, because a thief can not give good and lawful ownership.

Nearly all economists have recognized and affirmed that value can not attach to that which can not be appropriated. They account for the absence of value in air and sunshine by the palpable fact that these things can not be appropriated or made property. No ownership in them can be established or conveyed. President Sturtevant makes ownership not only an element of value, but the fundamental law of economic science. Roscher says (*"Principles of Political Economy,"* Vol. i, page 62), "Goods, to obtain value in exchange, must, in addition to their value in use, have the capacity of becoming the exclusive property of some one individual." The clear-thinking President Wayland said, many years ago, "Another element which enters into the notion of wealth is the idea of possession."

The notion of ownership is the basis of all transferability in values. Utility and effort can not be conveyed as property without this. They may be abandoned, but they can not be transferred either as a purchase or gift without recognizing ownership. Only he who owns them can rightfully sell or give them.

This third element of value, though so long almost unrecognized by leading economists, has come to hold the chief place in the world of trade and in the esteem of men. The severer pressure of present want having been relieved, utility is now thought of chiefly as a means of appeal to the cupidity of others. Large masses of values, or property, being in existence, the efforts which they cost are partly forgotten. But ownership remains a present fact, full of power and rich significance—full, also, of all promises of future good. To gain this ownership becomes naturally the leading aim of industry and enterprise. Men work to increase their possessions. They struggle for a larger share of what is called the world's wealth. After meeting and providing for the day's needs, all efforts and products go to purchase permanent possessions.

The ownership of wealth gives so much of power and dignity—so many advantages in the struggle for honor and influ-

ence—that ownership is sought for its own sake, even when the wealth itself is unneeded if not a burden.

30. The three elements essential.—These three elements, though different in their nature, are all equally essential to the full notion of value as it exists in the industrial world, and as it enters into political economy. Strike out either side of the triangle and the triangle is destroyed. In any object of value, obliterate either its utility, its demand for effort in its production, or its property relation to some owner, and in either case the value will disappear. It will no longer have a price, nor be salable. Men may still desire it for its usefulness as they desire fresh air; they may appreciate the labor it has cost, as they appreciate the well-worked highway; they may even recognize the right of property as that of a man to a letter he has written or to some short-hand notes he has made for his own advantage, and which are wholly illegible and useless to any one else; but till these three qualities unite in one object, there is no merchantable value.

These three are the only essential elements in value, since, if these are all present, value is present in all its power and function.

In general trade, values are based not upon the desires or efforts of the actual owner or purchaser, but upon the presumption of general desires which are assumed to exist, and upon an average effort which it is assumed will be required to obtain the article. Thus the price of flour depends upon the assumption of the general hunger which it will feed, and upon the effort which in general will be required to obtain it in the given time and place. It thus happens that goods often bear a fictitious or exaggerated value. But false values presuppose the true, just as counterfeit bank notes presuppose true ones.

31. The three elements compared.—Utility, efforts, and ownership, here called elements, are not elements in the strict sense of the term; they are rather parts of a complex whole, not elements of a compound. A comparison of them

in some prominent aspects will best show their true character and relation.

1. Looking at the object valued :

Utility inheres in it as some form, quality, or other fitness to meet desire. Effort represents the force necessary to produce this form, quality, or fitness. Ownership represents the right to use or enjoy the object—its restriction to some one owner.

2. Looking at its relations to other objects :

Utility is the relation of the object to the powers and needs of man. Effort shows the resistance offered by other things to the enjoyment of the object desired. Ownership tells the exclusion of the object from the common stock of nature's gifts.

3. Looking at man and nature :

Utility in an object measures nature's power in it over man—man's dependence upon nature. Effort measures man's power over nature—the extent of his power to subdue nature to his use. Ownership bespeaks man's power over man—his enforcement of his right to enjoy his own efforts.

4. Utility has been described as affirmative or positive value; effort, or the difficulty of attainment, as negative value. The first represents the positive power of gratification residing in the article; the second, not something in the article, but the resistance to be overcome before its utility can be reached.

5. Utility is a good sought. Effort is the rugged path which leads to it. Ownership is a right to hold and use it.

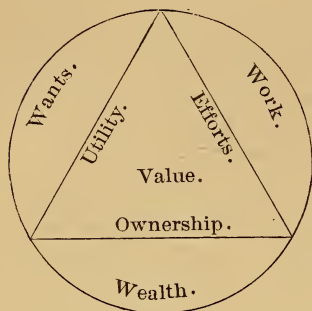
6. Utility appeals to desire; effort, to fear or dread of effort; ownership, to the sense of power.

7. Utility resides in the object; ownership, in the man; effort, in both.

32. The triangle inscribed.—Looking at the entire field of economic science as included in the three great facts of want, work, and wealth, each element in value is found to front one of these fundamental facts. Our triangle may, therefore, be inscribed in the economic circle as follows :

Every object of value exhibits this threefold response to the

great facts of the business world. Its utility faces human wants. Its required effort faces the working world. Its principle of



ownership ties it to the world of wealth. Whatever the object, whether a material thing or some power of service, these truths hold good. Value is forever, and in all cases, thus three-sided and central, in the economic world, and in the science which explains this world.

And since every business transaction—every act of labor or of trade—involves some value, every such transaction must exhibit these three sides and this threefold relationship.

J. Stuart Mill denies this central relationship of value to the entire science of political economy, and offers in proof of his view that he has proceeded through two main divisions of his work—books I and II—without discussing value. But his proof is spoilt by the admission which follows: “It is true that in the preceding books we have not escaped the necessity of anticipating some small portion of the theory of value.” (“Political Economy,” book III, chapter I.) We may add that Mill’s treatise throughout recognizes the idea of value as present to the mind of writer and reader, and its meaning is assumed as understood without discussion. His political economy, if stripped of this ever-present idea, and the propositions involving it, would show remaining only some disconnected, if not incoherent, thoughts on political and social science.

De Quincey, with more acuteness and correctness, affirms the notion of value to be “not a regulative but a constitutive idea of political economy.” (“Logic of Political Economy,” sec. I.)

Frederick Bastiat says: “The theory of value is to political economy what numeration is to arithmetic.” (“*Harmonie d’Economie Politique*.”) Scores of writers might be quoted in

proof of our position; but an easy appeal to the common sense of the business world would show that all the activities of industrial life circle around this idea of value. Let it disappear, and all the industries would cease, and economic science would no longer exist.

33. Erroneous notions of value.—It is necessary to notice some of the common errors in the definition of value in order that economic science may be freed from the charges of speculation and obscurity which have been urged against it. A brief exhibit of these errors will also be of use to the student as showing the difficulties to be met, and the mistakes to be avoided in his progress.

Value is complex. The common source of error has been the disposition to regard it as simple, and to define it as such. Being expressed by a single word, the tendency is to believe it a simple idea.

The definitions given, though numerous and discordant, may be reduced to the three following classes:

1. Value is defined as some power or property, inherent or acquired, residing in the object valued.
2. Value is a relation between the objects valued.
3. Value is a mere feeling or judgment of the mind, directed toward the object valued.

34. Exchangeability mistaken for value.—To the first class belongs the definition given by several economists: that value is purchasing power or exchangeability; in other words, the power to induce exchange and thus to procure another valuable object in place of the one given. But common sense tells us that it is because value is discerned in each of the objects offered in exchange that the exchange is made. One might as well define music as the power to induce listening. Purchasing power is the incident or result of value; not value itself. Every value is desirable, and therefore exchangeable. To define value as purchasing power, is only to give it a new and imperfect name, which needs definition as much as the first.

Value has, indeed, the power to purchase or procure another value in exchange, simply because it is value—something which men want and will give value for. And as exchange occupies so large a place in the business of life, the purchasing power of value is its most conspicuous and most frequently used function.

35. Value not a relation.—Under the second class of erroneous definitions comes the famous definition of Bastiat, pronounced, by “McLeod’s Dictionary of Political Economy,” to have effected “the greatest revolution that has been effected in any science since the days of Galileo.” This definition declares that “value is the relation of two services exchanged.” In another statement of it, Bastiat says: “Value consists in the comparative appreciation of reciprocal services.” Several American authors have followed Bastiat in defining value as a *relation* between things exchanged, or offered in exchange. Since a relation can only exist, or at least be known, when both terms related are present in thought, it follows that value, if merely a relation, can not attach to a single object; nor, indeed, to any number of objects except when compared. But it is evident that value is thought of by all as belonging to each of the objects or services offered for exchange. The very desire for exchange springs from the belief in the existence of two values, and the only question in exchange is as to the equality of these values.

The error seems to lie in mistaking the measurement of value for value itself. Ask any man if his hat or coat has any value, and he will reply, promptly, yes. Ask him how much value, and he will, perhaps, say, “I do not know; I have not fixed a price;” or, in other words, measured the value. But measuring value does not produce value any more than measuring wheat produces wheat. A relation of quantity exists, doubtless, between two values, as it exists between any other two objects or forces open to the same measurement.

36. Value not merely a feeling or judgment.—In the

third class come such definitions as that given by the Russian economist, H. Storch: "Value is not a quality inherent in things; it depends upon our judgment. We judge that an article is more or less fitted for the purpose for which we desire to use it, and this estimation of it constitutes its value." Nearly equivalent to this is the description recently given by Bonamy Price, of England, who affirms that value is an affection of the mind. Plain men will say that the judgment or feeling of value implies the existence of value; just as the perception or feeling of weight or color implies the existence of weight and color.

It is true that a great variety of considerations and feelings often enter into our estimation of a value gotten or given in exchange; and a still greater variety induces the exchange itself. The pressure of an immediate want; the pride, pleasure, or passion of the hour; motives of benevolence, of honor, of piety, of love, or hate, may cloud or color the view, and cause a temporary misapprehension, or disregard even, of the real elements of value. But so may passion or prejudice cause a misapprehension or disregard of any other fact or truth. In many cases the parties concerned are conscious of their disregard of the true value; and they affirm that the transaction was not purely "business"—it was moral or social, not economic in character.

H. C. Carey's definition of value, as "the measure of resistance to be overcome in obtaining the commodities required for our purposes;" N. W. Senior's notion of it as consisting in or measured by scarcity; and Prof. Jevons's view, that it is "the ratio between two numbers,"—all are definitions of the measure of value rather than of value itself.

37. The three elements acknowledged.—Besides the three classes of definitions described as arising from the effort to define value as a simple notion, there are many others in which the presence of two elements or factors is recognized or affirmed.

President Wayland enumerated "the capacity to gratify de-

sire" and "possession" as elements of value. J. Stuart Mill wrote "that a thing may have any value in exchange, two conditions are necessary. . . . The thing must not only have some utility, there must also be some difficulty of attainment." Professor Bowen and President Bascom, both following Mill, affirm value to consist of the two elements, "utility and difficulty of attainment."

De Quincey says: "Almost all writers have agreed substantially, and have rightly agreed, in founding exchange value upon two elements—power in the article valued to meet some natural desire, or some casual purpose of man, in the first place, and, in the second place, upon difficulty of attainment. These two elements must meet, must come into combination, before any value in exchange can be established."

Roscher writes ("Principle of Political Economy," 1878): "Goods, to obtain value in exchange, must, in addition to their value in use, have the capacity of becoming the exclusive property of some one individual, and therefore of being alienated or transferred." In this enumeration of elements, he agrees with Dr. Wayland, but disagrees with Mills and the others. Roscher elsewhere (sec. v) says: "The value in exchange of goods is based on a combination of their value in use with their cost-value." He thus, though not in immediate connection, recognizes all three of the elements represented in our triangle.

The affirmation of De Quincey, that "almost all writers have agreed substantially in founding" value upon utility and difficulty of attainment, has this much of truth in it, that in many of the definitions or discussions, both of these elements are involved or implied; but there are many definitions which can not be so construed.

The many disagreements shown between the writers quoted would be increased by a wider quotation. These disagreements are easily accounted for by the evident preoccupation of the mind with false conceptions of the nature and field of the

science, and of its central and constructive idea, value. Their errors in these respects would be of less consequence, but for the fact that they affect, with their own viciousness, all the discussions based upon them.

This enumeration of errors will not be useless if it warns the reader to be constantly on guard to prevent his mind from sliding back insensibly into the error of confounding *value* with *utility*. Pages of useless debate might have been spared us in the writings of economists if this unconscious relapse into a false view had been avoided.

38. Synonyms of value.—There are several terms in constant use in connection with value, and often supposed to be synonymous with it. Their definition may properly come here.

Wealth, as used by economists, means any or all articles having value. In common speech it usually implies an abundance of such articles, or of property. The word is sometimes applied to the abundance of utility—even where no true value exists. This has already been noticed.

Cost means, properly, the amount of labor and value expended in the production of any object of value at the time and place of valuation. In this sense, the value produced should equal the cost. Frequently, however, the word is applied to designate the money or other property paid for the object—the purchase money.

Price is value measured in money—the money equivalent. Commonly, the price means the amount demanded for any article. The term price has been so loosely used that it has been found necessary to define its different applications as so many kinds or forms of price. Thus we have *cost price*, by which is meant cost simply as defined above; *market price*, or the price asked in market; *selling price*, or the amount the article is actually sold for, and which, in cases of fraud or ignorance, may be greatly above or below its real value.

CHAPTER IV.

HOW VALUES VARY.

39. A true theory of value explains variations.—The incessant variations of value are the perpetual problem of trade and industry. They bring riches or ruin to thousands. They constitute, in political economy, that element of uncertainty which robs the science of half its credit and usefulness. If the economist could give rules to forecast the market for any commodity, he might have the ear of the world.

No theory or definition of value is true or complete which does not explain its variations. This explanation, though scientifically correct, may not, it is true, give the desired power of forecast; but it will show the basis on which any true forecast must be made. A rule may be right in principle, but it may fail in application for lack of the facts required. The rule for finding the area of a triangle—"multiply the base by one-half the altitude"—is correct beyond question; but if either the base or altitude is unknown, the rule can not be applied.

40. Variations of value not always variations of price.—The variations of value must not be confounded with the variations of price. As price is, in general, value measured in money or some other commodity—or value expressed in the terms of money—the variation in price may be usually taken as indicating a variation in value. But prices are often speculative in character, anticipatory of future values, or imposed by monopoly with little regard to values.

No fact is more open and common in the business world than the fanciful fluctuations of prices, seemingly independent of real value. The same article may bear one price to-day and another to-morrow, influenced only by the whims of buyers or sellers, or by statements wholly false and illusory, of probable demands or supplies in market. But in all cases there is a pretense of value, and a virtual recognition of the fact that real values do exist and that price should conform to these values. The variations of prices may be taken as proofs that there are real variations in value; since if value was known to be always fixed and invariable, prices themselves must cease to vary.

41. Variations in utility.—Every true variation in value must arise from a variation in some one of the elements of value. In determining the changes or variations to which these elements are separately liable, we shall determine the true causes of all genuine changes in values themselves.

Utility, which has been already defined as the power to gratify desire, is subject to two classes of variations. First, the desire remaining constant, the power of the object to yield gratification may be increased or diminished, as by growth or waste. Old wines gain in value, but old clothes lose. Second, the object remaining unchanged, the desire to be gratified by it may change. A bonnet made last year may retain its covering and adorning power, but the fashion has changed, and, the desire for the bonnet in question being lessened, its value is diminished. The changes of fashion occasion some of the most frequent fluctuations in market values, and these changes are purely changes in desires or tastes.

The discovery of a new use for any article or material, gives it a new value by relating it to a new set of desires. So, too, the discovery of some new and better means of gratifying a common desire, lessens the value of the old means of gratification by removing the desire for it. Thus, linen rags were almost without value till it was found they could be manufactured into paper; and the discovery of petroleum, and the illu-

minating oils distilled from it, greatly diminished the demand for whale-oil, and cheapened its price.

42. Conflict of desires.—But the fluctuations in value, occasioned by changes in desires, are increased by the opposition of the several desires which enter into the common estimates of value. In exchange, each article offered for exchange appeals to a separate desire, and the strength of one desire may lessen the force of the opposing desire. The strong desire or need for money often leads men to sacrifice, or sell at a cheaper rate, the articles they have to exchange for money. The strength of a man's desire for a watch may lessen his feeling of need for a new coat when he can have but one of the two.

But, further, each party in an exchange has two desires—the desire for his own property and the desire for that of the other. Hence, in every estimation of value, four desires, two of each party, come into competition and help to determine the final judgment.

In general trade, the desires of the individual buyers and sellers have little to do in determining values. These individual desires may favor or hinder the sale of a single article; but both parties look to the larger public or general demand and supply to fix the real value. The individual buyer is only one of many hundreds whose wants are to be supplied; and if he demurs to the price fixed, the goods may be kept for other purchasers, whose desires are stronger or whose means are greater.

43. Variations of efforts.—Effort is also a variable element. The efforts required for the production of any commodity change, and this change will cause a variation in the value of that commodity. Books, when formerly made by hand, cost sometimes as much as a farm; but the invention of the printing-press reduced the value to less than that of a day's labor.

Three classes of change may affect the efforts of production: change in the processes; change in the material used; and

change in the machinery. Processes of production are often simplified and improved, so that much larger products come from the same amount of labor. In mining, agriculture, and the chemic manufactures, many cases abound, in which a change in processes both increases and improves the goods produced.

The cheapening of materials by the opening of new sources of supply, near market, or the discovery of other and cheaper materials, diminishes the effort required in this direction, and lessens the market value of the goods produced. The more fruitful seasons often produce the same effect, by giving larger harvests from the same cultivation.

The improvement of machinery has wrought the chief changes in the amount and kind of efforts required for the production of goods. Modern arts are full of examples of lessened labor and lowered values. The cloth manufacture, and, more recently, the watch manufacture, are familiar and fine examples. Cloth and watches are now produced by machinery which even children, in many cases, can tend; and the value of these products has cheapened, while their utility and excellence have greatly increased. Thousands of men now wear broadcloths and carry watches, where only single individuals enjoyed them in the old days of hand labor. Aided by his machinery, one man can now do the work of ten, and, not unfrequently, of a hundred hand laborers.

44. Variations of value illustrated.—By recurring again to our triangle, we may find an illustration which will make clearer the relative influence of utility and efforts in producing variations of values.

Let the base, representing ownership, be an unvarying line representing a fixed quantity. Then:

Case 1.—It is evident that any increase of either, or both, of the lines representing effort and utility or desire, will increase the area representing value. This may be seen in the case of commodities, such as personal ornaments or other goods not

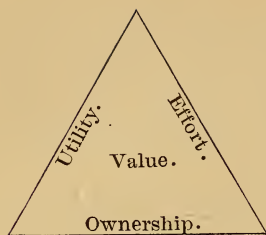


Fig. 1.

indispensable, in which the effort of production, and the utility or the desire on which the utility depends, are limited quantities. Let both the work required and the desire for the commodity increase, and the value will enhance rapidly.

Case 2.—But the effort remaining constant, there is a point which may be reached where any increase of utility will not increase the value area. This will be the case when efforts have reached the highest point attainable—

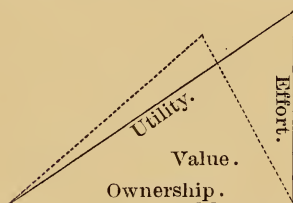


Fig. 2.

that is, when the purchasing power has reached its highest limit, shown by the effort line reaching the perpendicular (Fig. 2). The illustration will remain true whether the effort line represents the highest possible effort or means of purchaser, or only the highest actual limit of necessary labor in production.

If an article can be produced by a day's labor, it can not, ordinarily, be made to bear a higher value by finding a new use for it; nor can its selling price be effectively raised above the purchaser's means of purchase.

Case 3.—So on the other hand, the desire and consequent utility remaining constant, there is a point (represented by the perpendicular utility line, Fig. 3)

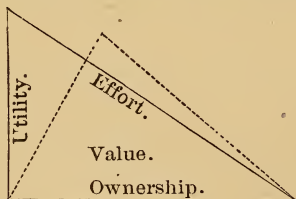


Fig. 3.

beyond which no increase of the line of effort can increase the value area. It must be remembered, in this and the other illustrations, that the limit of desire is also the limit of utility. There can be no utility where there is

no desire to be gratified. If a man's desire for any article is measured by one dollar, doubling the effort necessary to its production will not increase his desire nor the price which measures his estimate of the value, and which he is willing to pay.

But there are cases in which either desire or effort are unlimited, in which the desire or need is vital, and therefore practically infinite; or in which the difficulty of attainment and the effort required approaches the infinite—that is, the impossible.

Case 4.—Let the utility be unlimited. In this case the value area will seem to vary solely with the effort required. Doubling the effort doubles the value. In a famine, the price of food goes up till at last a man will give all he has for a loaf of bread. So, too, the value of gold sinks to nothing when weighed against the plank needed to escape from a burning ship.

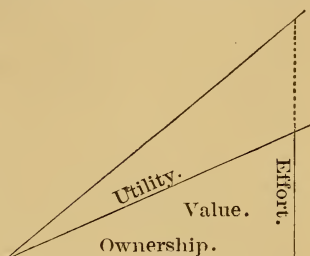


Fig. 4.

Case 5.—Let the effort required be unlimited. Now the value area will vary with the utility line. Doubling the desire will double the value. This case will explain De Quincey's story of the musical snuff-box. The trader, exaggerating the charms of the toy, stimulated the emigrant's desire for it, and, as long as the power to purchase was not overpassed, he continued to increase the estimate of value. In common life, an expert salesman often thus plays upon the desires of his customer.

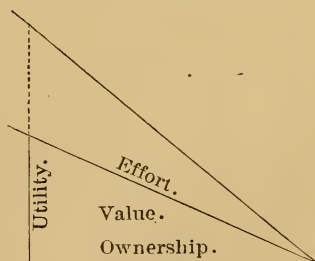


Fig. 5.

In the case of a master-piece of Raphael or Rubens, the pro-

duction has ceased, and the difficulty of attainment approaches the impossible; hence, the price or estimate of value mounts with the taste or desire of the buyer.

45. Monopoly.—Ownership is a right, and can not, therefore, be thought of as varying in quantity. Hence, it can not be counted as a variable element in value. But it is, nevertheless, the source of the most frequent and largest fluctuations in prices, if not in values, known in the markets.

Monopoly means, properly, an exclusive power of sale. When the ownership or control of all the goods or services of a given kind, in any locality or market, belongs to one man, he is said to have the monopoly, or exclusive sale, of such goods or services.

Monopolies are very old in history. They were frequently reserved by monarchs for their own profit, or were given by them to enrich a favorite, or reward a chief. Not unfrequently they were sold as a means of raising supplies.

The monopolist holds almost absolute control over the prices of his commodity or services. Controlling the supply, he can at will create an artificial scarcity, or, in other words, increase the difficulty of attainment, or effort demanded, as far as he chooses; and may thus raise the price to any point, up to the limit of men's needs for the goods in question, or at least up to the limit of their power to purchase.

Monopolies are often useful, and sometimes necessary. They offer the hope of enormous reward for enterprises whose risks would otherwise prevent their being undertaken at all. Many of the discoveries and settlements on the American continent were stimulated by patents giving the monopoly of trade with the lands to be discovered or settled.

46. Classes of monopolies.—Monopolies have been divided into four classes (“*Dictionnaire De L'Economie Politique*.”):

1. Personal monopolies, or those which result from the possession of superior faculties: as the genius of a great painter or

physician, or others, whose unequalled skill allows them to charge what they will for their services.

2. Landed monopolies, or those resulting from the possession of lands, mines, and privileges connected with lands.

3. Legal monopolies, or such as are retained by the government for itself, or given by charters to individuals or corporations. The French and German governments hold the monopoly of tobacco, which is raised, or imported, and sold by government agents, and yields a large government revenue. Our own government, as well as others, holds a monopoly of the post-office service, and of the coining of money. We grant to certain bank corporations the monopoly of supplying the country with paper money, beyond the treasury notes; and to railroad corporations the right to build railroads between certain given points.

4. Monopolies of concentration, by which are meant those produced by the concentration of capital, or by any business combinations.

These last may be useful or injurious, according to the spirit of their use and control.

47. Advantages and dangers of monopolies.—If their influence on production be alone considered, monopolies are doubtless beneficial. They stimulate production by lessening the risks and giving assurance of larger rewards than can ordinarily be obtained where markets are free. But they are liable to such abuses that their existence should be carefully governed by restraining laws.

It is evident that the values created by monopoly are often artificial and false, if not excessive. They are produced by interposing an artificial obstacle in the way of the attainment of the goods monopolized, and thus imposing an unnecessary pressure on the needs of mankind.

The monopoly principle has penetrated and influenced every department of modern business. So powerful and enticing is this exclusive ownership as a means of controlling prices and se-

curing profits, that there is a constant temptation in the management of business to obtain, if possible, a monopoly of some kind and to some extent. The manufacturer who gains a monopoly by producing fabrics of a novel pattern, or by securing for them a reputation for their style or excellence; and the merchant who gets the temporary monopoly of goods by the earliest importations, or by keeping lines of goods not found at any of his competitors, gain their advantages by the use of legitimate and intelligent enterprise; and generally they are sufficiently guarded from the abuse of their power over prices by the felt need to keep on good terms with their customers, and to avoid the bad and ruinous reputation of extortion.

The gigantic trade, transportation, mercantile and manufacturing companies and corporations sometimes gain monopolies by overthrowing, or buying out all rivals, to keep the field clear for themselves. It is then in their power to tax, at will, and often with more audacity than the government itself, those who require their services or commodities. In general, the restraining power of an intelligent public sentiment, and the eager desire to induce a larger patronage, are found sufficient to hold back these great corporations from a too serious abuse of their advantages. The value of their enormous constructive and productive energies to the country are well known.

48. **“Corners” and other monopolies.**—The “corners” contrived by speculators, in stocks and grain, are bad applications of the monopoly principle. The parties creating the corner get possession, as nearly as possible, of all the shares of some railroad, or other stock, or of the supply of some commodity, and thus put themselves in a position to control the market price. They next make contracts with brokers, or others, to deliver to them, the corner makers, at the common or current rates, large amounts of the cornered stock or commodity. Having thus created an artificial and imperative demand for this stock or commodity, they put on their exorbitant

monopoly price, and the duped brokers, or other victims, must purchase at these prices or forfeit the difference.

Artisans, through their trade unions, sometimes attempt to gain a monopoly of labor by restricting the number of apprentices who may be allowed to learn their trade, or by forbidding their members to work for less than some prescribed rate of wages.

A sort of natural monopoly exists in the case of articles of rare occurrence, or of very limited production. The number of large diamonds, like the celebrated Kohinoor, is so limited that the possessor has a monopoly, and may set his own price. So, also, in the case of the great master-pieces of painting and sculpture, already noticed. The owners, knowing that they have the whole supply, are limited in their prices only by the height of the desire and the length of the purse of the purchasers.

49. Abuses of monopoly.—The too common and often enormous abuses of the monopoly power must be held responsible for those disturbances in the economic world which seem to contradict and discredit economic science. Monopoly is the intrusion of an external force into the realm of values. It adds no new element to value, but imposes upon the elements of desire and difficulty of attainment an artificial pressure. It is the usurped domination of the social and artificial element of ownership over the two natural elements of utility and desire.

50. Individual values and their variations.—The variations of value have another source in the fact that each of its elements is subject to two distinct and opposing estimations—that of the owner and that of the proposed buyer. It has already been shown that two sets of desires are brought into competition in every act of exchange. We may add that every article has two values, or, indeed, as many as there are individuals who desire it. And each value is real, though different from every other. The utility to the owner is often widely different from the utility to the buyer. So the efforts contem-

plated are never the same to both parties. The article may be easy of attainment to the one, and difficult to the other. The possession, also, may be of great importance to the one, and of none at all to the other. Hence, no value is the same to any two minds, for no two minds are alike in desires, power, or circumstances.

No value remains constant to the same man, even; for no man remains constant in desires, needs, or environment. We often count as almost worthless to-day the things which, yesterday, we thought of high value. All this does not disprove the reality or certainty of value, but shows simply its variable character.

51. Market values.—Values in general, as they are known in the markets, are, as before stated, not estimated by the desires or needs of individual buyers or sellers, but by the known or supposed wants of communities or classes of people. This general value we may call market value, to distinguish it from the special values described in the last section.

The ordinary trader buys and sells the market values. He counts upon the existence and strength of certain common needs and tastes among his customers, and his success depends on the correctness of his perception and forecast, both of the kind and quantity of goods desired.

So, also, the manufacturer manufactures for the market, and counts upon the market values. He shapes his products to meet the common wants. In general trade, the comparison of desires and efforts between individuals seems to disappear. It is, in reality, only replaced by another comparison—that of the individual value with the market value. When the would-be buyer estimates the value to himself as less than the market value, as stated by the seller, he refuses to purchase.

The market value thus comes to rest, at last, upon the individual values; for, if it were higher than these, the demand for it would cease. By a great law of market gravitation, the value in market finds the level of the total individual demands. The

general variations of values with which the business world is concerned, are made up of the special variations of individual utilities and efforts. And so all changes of value, whether true or false, must rest finally upon a variation, real or supposed, in some one of the three elements of value.

52. Gifts and keepsakes.—Men, from motives of policy or friendship, often donate goods, or sell them less than cost; but in such cases there is no new estimate of value. They do not lose their conviction that there is a real value, much higher than the price they charge. So, also, from the pressure of a present want, or from weariness with some long-used article, the owner sacrifices his property for a price below the real value; but in these cases there is a sense of sacrifice, and the true value is still judged to be that which its utility and cost give.

In the case of heir-looms and keepsakes, the owner often counts, as beyond price, things of little or no value; but he will freely confess that it is not the value for which he keeps them, but from tender and sacred associations.

53. Profit.—A final and, as it may seem, wholly arbitrary source of fluctuations in market values, or prices, is to be found in what men call profit.

Profit, in its strict sense, means the advantage or value gained by the production or exchange of goods. In every successful effort in production, there is an excess of new value created over and above that consumed or used up. This excess of new value is profit. In the manufacture of cloth, the cloth produced, by virtue of its new utility, is of more value than the wool, labor, and machinery used up in the manufacture. In the mercantile industry, the goods collected, transported, and properly stored and arranged for sale, are worth more than the original cost. These increments of value are the proper profits of the cloth-maker and the merchant.

Profit furnishes the chief motive for ordinary production and trade. If no new values were created by their efforts, men

would have little or no motive for business. Their wants might compel them to change one valuable product into another, even at a loss; but the great wealth-creating industries, if robbed of profit, would dwindle to the mere production of the necessities of daily life. Profit is, therefore, a legitimate and needful demand of business. It is the very condition on which it exists, and by which it grows.

True profit, which represents a real increase in values, is the rightful property of him who creates it. But there is an exaggerated and false profit, charged by cupidity and extorted from ignorance, which represents nothing but the greed of its gainer.

54. The elements of profit.—It is conceded that the returns and profits of a business ought to cover the entire expense for labor, materials, and machinery used up, interest on the capital invested, compensation for the risks run, and the proper pay for the time and managing ability of the proprietor or conductor of the business. These ought all to be represented in the new values created. Economic science recognizes these as proper elements of value, and as justly included in the prices charged. The thoroughly honest manufacturer and trader will limit themselves to these as their own. But, as few purchasers have the ability or leisure to learn the real cost of the goods they purchase, the manufacturer and merchant are left to fix their own estimate of the cost of their commodities, and to determine their own demands for profits, except as they are held in check by their sense of prudence and right, and by the competition of their rivals. Little wonder that the temptation to take excessive prices is sometimes too strong to be resisted, and that dishonest dealers take, as legitimate profits, all that the ignorance or needs of their customers will give them. But it is no remedy for the wrongs wrought by bad men, to denounce or deny the principles which they abuse. Frauds may justly quicken our vigilance, but need not fill us with universal suspicion, both of men and of truth.

It seems needless to repeat that Political Economy, as a

science, has nothing to do with fictitious values or false prices, except to show the principles by the abuse of which they are imposed upon men. Beyond that, the question must be sent to social science, or, further than that, to the cognizance of morals and the jurisdiction of law.

The ceaseless gravitations which rule in the economic as they do in the material world, the steady pull and pressure between buyers and sellers, and between sellers themselves, are certain, in the long run, to bring prices to the level of values, and to bring values to the level determined by the relations of their several elements. And if this level is never reached except for a passing moment, it still remains the necessary ideal line from which all upward and downward movement must be measured. It is the constant "sea level" of the economic world.

CHAPTER V.

MEASURE OF VALUE.

55. Its measure presupposes value.—The measurement of value constitutes so important a problem in economic science, that a brief chapter may well be given to its discussion. As an estimation of values must necessarily precede every exchange or sale, and as value is most commonly thought of in connection with some proposition of exchange, and thought of, therefore, in an effort to measure it, it is not surprising that many economists should have confounded the fact of value with the act of estimation. Such is the origin of Bastiat's definition, "Value consists in the comparative appreciation of reciprocal services;" and of that of Prof. Perry, "Value is the relation of mutual purchase established by exchange between two services."

It is true that the perception of value is clearest in the act of measuring it. All its elements are then necessarily passed in review; but, as already answered in a previous chapter, measurement necessarily presupposes the existence of the thing measured.

56. Two kinds of measurement.—In trade, men seek to get as much as they give. Each party, therefore, to a trade, or exchange, necessarily measures the value of what he gives and of what he gets. This measurement is wholly private and particular. It determines only the value to himself, and of the articles actually compared. But there is a public and general measurement of the values of classes of goods, which determines

their market value or price, and decides what each article of any class is entitled to exchange for in general.

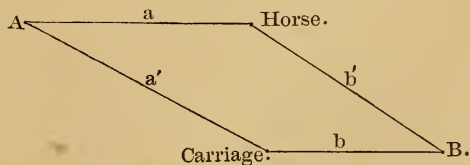
There are thus two measurements of value. The first is *relative*, and consists in comparing one value with another, to determine their equality or difference. The second is absolute, and is the comparison of any value with some standard of measurement, to determine its positive quantity as expressed in terms of the standard used.

57. Relative measurement.—Barter.—Relative measurement, or comparison, is used in barter, or in the exchange of goods for goods, or for services, and it ascertains only equality or difference. In case of difference, it ascertains also the ratio of difference, or the number of times one value is greater or less than the other. Thus, the value of some hat may be found equal to, or greater, or less, than that of a given coat; and, further, it may be determined that the one value is twice as large as the other. This estimation is personal and private, and fixes the amount of values only for the parties concerned in it.

We have already seen that, ultimately, all values are individual, each object having a separate and different value for each person desiring it. In the end, therefore, all values must reduce to personal or private values; hence the necessity of determining the laws of measurement in this ultimate and relative estimation.

In every exchange of commodities between two owners, each will estimate for himself both articles offered in exchange. There will be, therefore, four values put in competition. To illustrate this, take the following figure:

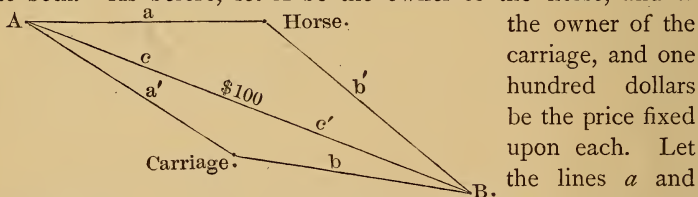
Let A represent the owner of the horse, and B the owner of the carriage, which they wish to exchange. The lines a and a' represent A's valuations of the



horse and carriage, and b' and b represent B's valuations of the same. In order to an exchange, a' must be greater than a , and b' must exceed b ; for the motive for the exchange is found in the gain that each party thinks* he is making. The double gain is possible because of the double valuation. Each party to a fair trade may receive what to him is of more value than the thing he gives. No exchange can usually take place if either a is greater than a' , or b is greater than b' ; for in either case one of the parties will, in his own estimation, suffer loss.

It is not necessary, in this case of pure barter, that a shall equal b' , or that a' shall equal b ; for, as the barterers have no common standard of value, they can not compare their several estimates of either the horse or the carriage alone.

58. Relative measurement in sale.—In the case that each first puts a money price upon his property,* the conditions of trade are changed, as the following figure may illustrate. Let each value his property at one hundred dollars. The money, we may assume, represents the same amount of value to both. As before, let A be the owner of the horse, and B



the owner of the carriage, and one hundred dollars be the price fixed upon each. Let the lines a and a' represent A's estimates respectively of the two articles, and the lines b and b' represent B's estimates of the same. Let c and c' represent the equal estimates which each puts upon the one hundred dollars. Now the exchange will not depend alone upon the excess of a' over a , and of b' over b , but upon the relations of a and b' , and of b and a' . The lines a and b being each equal to c ($c = c'$), the exchange may take place if either a' or b' are greater than c ; that is, if either A or B counts that he shall gain by the bargain, the other not losing, the trade may be effected. In general, both a' and b' must exceed c ;

that is, both parties must be tempted by a hoped for profit or gain. In this case it must be noted that a and b represent market values, while a' and b' represent personal values, or the personal desires for the property sought.

It is obvious that in cases like the above, in which each party sets a price upon his property, there is a double sale; A sells his horse for one hundred dollars, and buys B's carriage for the same sum. But each immediately reduces the market value, in his own mind, to the personal, and feels sure that he has gained as much by the bargain as the personal exceeds the market estimate.

This difference between personal and market values is of the utmost importance in trade, as it furnishes the motive for all exchanges.

59. Absolute measurement.—Absolute measurement is measurement by a standard. The common standard of measurement of values is money, and the measurement is the fixing of the price. This is rarely done by one or two persons, except as they take into account the general wants of those who are expected to purchase. It is, as we have seen, the general estimate of the buyers and sellers concerned that establishes market prices. We leave out of sight, in this statement, those fictitious prices imposed by speculators and monopolists, which are usually temporary, and confined mostly to a few classes of goods. Competition, and the various influences which determine the course of trade, are constantly at work to rectify the estimates of value and to make prices correspond to values.

In sales of goods or services for money, the measurement of value is of the absolute kind. The money price is taken as the value; but, as has been shown, both buyer and seller take into account the personal value of both money and goods to themselves, and count upon a gain of satisfactions, if not of values.

60. A standard of value.—It is conceded that money is not a fixed and perfect standard of value. Like all other commodities, it varies in utility and in purchasing power. Its

variability, through a long series of years, is shown both by the changes in its power to buy labor, food, and other commodities, and by the differences in the rates of interest paid for its use.

To find a fixed and constant standard of value, or "measure of prices," is one of the unsolved problems of economic science. It has long engaged the attention of economists, but has baffled all their attempts. The requirement is to find some commodity which remains, in all times and places, constant in value, or varies uniformly and by some known law.

Several different standards have been proposed by as many different writers. Adam Smith proposed an ordinary day's labor as such a standard, and judged that the goods which, in different parts of the world, will purchase a common day's labor, will equal each other in value or price. A simple appeal to facts disproves this. The wages of labor vary constantly in the same country, and rarely, if ever, agree in different lands. Benjamin Franklin sought to improve on Smith's standard by limiting the labor to be taken as a standard to some one kind, and thought that labor employed in the production of wheat would serve best as a measure of values. But common labor in one department will evidently follow any fluctuation of common labor in all other departments. John Locke, Condillac, and others, proposed wheat or other principal bread-stuff of any people, as the standard. Say recommended wheat for distant times, but not for distant places. But it was easily shown, by statistics, that wheat varied in price with the shortness of crops, with the prosperity of other industries, and with wars. Nor is the average price of wheat taken for a long series of years, constant with its average for the next like series. Slaves, land, and other kinds of property have also been offered as the desired standard; but to all nearly the same objections apply.

61. The compound or tabular standard.—Despairing of finding any single standard, later economists have attempted

to construct a compound, or tabular standard, by taking a large number of leading commodities of nearly universal use, such as labor, land, wheat, sheep, beef, wool, flax, cotton, tea, coffee, sugar, salt, etc., and finding the mean of their average variations. It is assumed that the rise in the values of some of these articles will be compensated by the fall in others, and that the mean will prove to be nearly constant. Prof. Jevons, who made a computation based upon forty different articles, has recommended the tabular standard, based upon at least one hundred articles. Gen. Francis A. Walker, in his "Money, Trade, and Industry," says: "So far as I am able to judge, the scheme has not a single weak point." The proposition of Mr. Joseph Lowe, of England, the inventor of this scheme, was that a commission of competent persons should be employed to collect and tabulate the prices of the articles chosen. Jevons and Walker propose that the commission shall publish, periodically, their decisions, as well as a tabular statement of the prices on which it is based. This standard of value is not designed to supersede money as the ordinary measure of prices and values, but it is proposed that the fluctuations of money shall be corrected by the tabular standard. For this purpose the value of money by the tabular standard, would be noted on every long-time contract at the time of making it, and corrected by the same standard at the time of payment.

The Hon. H. C. Burchard, director of the United States mints, in his report for 1881, made an important contribution toward the establishment of a tabular standard, by collecting the average prices, through a period of fifty-six years, of nearly a hundred different commodities.

62. Utility of a true standard.—The need of a constant standard is to be found in those contracts which allow long times of payment, and also in the measurement of legacies and permanent investments for the benefit of heirs, or of public eleemosynary, educational, or other institutions. It would also find place in maintaining at an equal level fixed salaries, taxes,

and other annual payments, made to run through a long series of years.

The need of such a standard was forcibly illustrated during and after our late civil war. Debts contracted when the dollar was at par, or worth one hundred cents in gold, were often due and paid when the dollar had declined to be worth no more than thirty-five or forty cents in gold. In these cases the creditors lost the largest part of their dues. On the contrary, debts made during the war, when the dollar was worth only one-half of its face, were required to be paid years later, in dollars worth nearly or quite one hundred cents in gold. So salaries, established before the war, at two thousand dollars, were worth during the war, and for years afterwards, one thousand or less. Endowment funds, invested for the support of public institutions, have been found strangely inadequate in subsequent times, because of the changed value of their incomes.

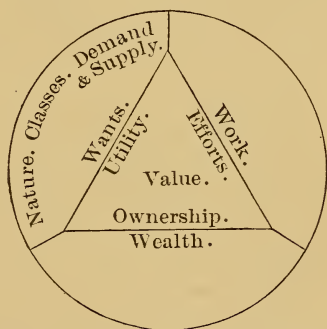
The real difficulty in finding a constant standard of value lies in the variable nature of value itself. And as the sources of these variations are planted in the mental and social conditions of the race, it may be questioned whether such a standard would not prove illusive if not injurious. Value is a matter of the moment, and responds to an existent state of want and relationship. The toy represents to the child what the splendid mansion does to the man. The paint and the eagle's feathers are to the savage what the crown of jewels and the royal robe are to the white monarch. The wealth of distant ages, and of alien peoples, can only be compared in connection with their civilizations. Practically, a fixed standard of value is of consequence in such cases as those mentioned, and then only for a single generation or less.

CHAPTER VI

WANTS AND UTILITIES.

63. The circle enlarged.—We bring forward, once more, for a further illustration, our triangle and circle. The triangle of value has been sufficiently discussed to show its central character and importance. The discussion must now pass beyond its lines into the ever-widening circuits of wants, work, and wealth.

The notion of value, with its threefold character, is not to be left behind, nor lost sight of. It is every-where the central idea, and the key to all the rest. It responds to all material wants; it energizes all work; it is the significant fact in all wealth.



Central in every act of exchange between children or men, in every purchase or sale, in every contract and business engagement, in the gigantic transactions of great corporations and in the widest calculations of a world-embracing, world-enriching commerce, from the want and work of an hour to the mighty industries which employ and feed the world's uncounted millions, the notion of value mingles with it all, and gives the business character to it all.

64. Wants and utilities reciprocal.—To the idea of

want, value always answers as the gratifying utility. When merchant and manufacturer look out upon the wide world of human wants which constitute their market, they unconsciously turn to the utility of their goods as the natural correlate and response to these wants; and so, too, the thought of the utilities they are producing, summons into sight, as the other side and counterpart, the wants which these utilities presuppose. The full discussion of the one must necessarily involve the survey of the other.

Just as in the world of work, values are thought of as the products of such and such efforts; and as in the world of wealth, they are thought of as possessions having purchasing power; so in the world of wants, they are uniformly and always, of necessity, thought of as utilities having power to gratify. Those economists are wrong who assume that value is always thought of as a relation of goods offered or given in exchange.

65. Want and utility defined.—The word *want*, in strict use, means something lacking. It is the felt lack of something required to gratify a human need, desire, taste, or appetite of mind or body. In Political Economy, want is any need or desire which seeks its gratification through labor or the products of labor.

The word utility must be given an equally wide meaning. It embraces not merely the useful, in the narrow sense, but all things which have the power to gratify any desire, or to aid in getting such gratification.

Want and utility mutually imply each other. Want is a craving which utility satisfies. Want is an inward feeling; utility its external object. Want precedes; utility follows. Want is original; utility is its derivative. Want is positive and necessary; utility is conditioned upon it. Utility is limited by the want it gratifies; when the want ceases, the utility ends. It is in the nexus of want and utility that Political Economy unites its mental and material sides or aspects. Looking in-

ward, it is a mental science; looking outward, it is a material science.

66. Vast extent and influence of man's wants.—The wants of man are practically endless. Human life is a recurring series of needs and desires. They return afresh after each gratification. They multiply with the growth, they change with the character, and vary with every varying condition of man and society. They constitute the motives of all voluntary action, and measure the fullness and force of all sentient life.

Civilization is to be known and estimated chiefly by the number and character of its wants. Every advance in civilization is accompanied, if not produced, by the elevation and increase of human wants. The savage has few wants, and these are simple and mostly sensual, yielding but low and brutal pleasures, and lending to its employments only a feeble and fitful force. The needs of the civilized man are as endless as his resources. They sweep through the entire range of his sensibilities and his intelligence, filling his life with pleasures both elevated and intense, and giving to his enterprises an impulsive force as powerful as persistent.

It is an error as grotesque as it is false to conclude, as Rousseau did, that civilization is an evil because it adds to man's wants. The increase of wants is the increase of motives and of opportunities. It is the widening of the field of life that widens the scope of desires. If the civilized man is inferior in condition to the savage, because of his greater needs, then is the savage inferior to his dog for the same reason, and the dog is inferior to the oyster. The argument of Rousseau shows its falsity by the absurdity of its conclusions. But it is also false in its facts; for the savage, or man in the state of nature, is not content. And the discontent of the savage is real, for he lacks the necessities of life; the discontent of the civilized man is often imaginary, arising from the indisposition or neglect to enjoy the abundance which surrounds him.

67. Non-economic wants.—Not all wants demand labor for their gratification. Many of the bodily needs, and still more of the spiritual, are met by gifts of nature, by material or spiritual conditions and environments which come without effort. Nature gives light for the eyes, air for the lungs, water for the thirst, and sunshine and its warmth for man and soil, without labor and without price. She also gives, freely, beauty to gratify the æsthetic taste, truths for the intelligence, and facts for the understanding. In many cases also nature furnishes, without human labor, food and shelter.

Wants thus met by the free utilities of nature cost no efforts, and give rise to no values. Such wants do not count among the economic forces, though these free utilities, helping to swell the aggregate of the resources of life, have sometimes erroneously been counted among the world's wealth. They belong to wealth only in that figurative sense in which we speak of *rich* mines and of a *rich* soil, and in which use is put for value. Only labor can create value; and nature's gifts, however high their utility, and however vital or many the wants they gratify, are never counted as goods, in the world's market, till touched by the hand of toil.

Many wants are also suppressed by men as beyond their means of gratification. The poor habitually suppress many desires, and few men have wealth enough to gratify all their wants. These suppressed desires are not actual, but only possible economic forces. They become active when easier production and cheaper products allow them to be gratified.

68. Economic or demand wants.—The wants which count in economic science are those which can be gratified only by labor or its products, and which men are either unable or unwilling to suppress. These wants constitute the market demand for goods or service, and may be called demand wants, or simply demand.

There is a class of wants which can be met only by personal

service, which may be rendered by hired servants and professional aid, or by the gratuitous help of friends. Such are the care and nursing required by those in either extreme of life, or by the sick and the unfortunate. It includes, also, the wants and desires met by professional service, such as that of the teacher, the lawyer, and the physician. The power to render service is also an economic value, but limited in the character of its ownership, which can not be transferred except in use and temporarily.

69. Estimation of wants.—Wants are estimated both by those who feel them, and by those who propose to provide for them. In the actual business world, they are mostly estimated by manufacturers, merchants, and others, who hope to make their profits by meeting them. But this public estimate must necessarily rest first, if not finally, upon the private estimate which every man makes of his own desires.

Personal desires all relate to pleasures which we wish to enjoy, or to pain which we wish to avoid.

Jeremy Bentham said, "To a person considered by himself, the value of a pleasure or pain, considered by itself, will be greater or less, according to the four following circumstances: 1. Its intensity; 2. Its duration; 3. Its certainty or uncertainty; 4. Its propinquity or remoteness." He also adds, as circumstances giving power or value to a pleasure or pain, "Fecundity, or the chance of being followed by others of the same kind; purity, or chance of not being followed by others of the opposite kind; and extent or the number of persons to whom the pleasure or pain extends." All of these, doubtless, have to do with the personal estimate which each one makes of his own desires and aversions. But the public estimate of human wants made by those who seek to learn the market demand for goods which may gratify desire, or save men from pain and trouble, must rest upon other and larger, if also less scientific, classifications.

70. Classes of demand wants.—Several classifications

of economic or demand wants, though lacking in scientific precision, will be found useful in studying their economic relations. We notice some of the principal ones:

1. *Vital and non-vital.*—Vital wants are those whose gratification is necessary to the continuance of life. The goods which satisfy them are called necessities. These are chiefly food, and the means of procuring or conserving warmth, such as clothing, shelter, and fuel.

The non-vital are those whose gratification yields pleasure, but is not necessary to life. The goods which gratify these wants are called luxuries. The line of division between these two classes of wants is not fixed and immovable. Luxuries may not only become necessities by use, but the pleasures they afford are often the means of increasing or conserving vital energy.

The vital wants are universal, and can not be suppressed or held in abeyance. The market demand for necessities is, therefore, large and nearly constant. The supply must also be abundant and constant. But, as these wants are nearly fixed in their limits, the conditions of scarcity and glut of the market will be more frequent than in the case of other goods.

The non-vital wants or desires for luxuries have a wider range, but are less constant. They vary with tastes and fashions, and have a large choice of gratifications; hence, production of any one kind of goods is less abundant, and scarcity and glut will be less frequent, though the market will be more fickle and more difficult of calculation. Necessaries mark existence; luxuries mark pleasure.

2. *Physical and mental wants.*—Physical wants include all bodily appetites and needs, which are met either by material goods or by personal services. They embrace the vital wants and most of the desires for physical pleasures.

The mental wants include all gratifications of the intelligence, and of the æsthetic, moral, and religious nature of man. These

gratifications come sometimes through physical agencies, as works of art, books, and instruments of music, and sometimes through personal services of professional men, artists, or other laborers.

The goods which answer to the physical or animal wants are chiefly nature's products or commodities, in which the gifts of nature enter as a chief factor. The utility of these goods are found in the natural properties they possess. Our foods, clothing, houses, machinery, and vehicles are valued according to the sterling material qualities they possess. The goods which serve the spiritual or mental needs of men are those in which the efforts of high skill and special genius are involved. The natural material properties count for little, but the ideas involved, or represented in them, count for much.

It is obvious that the distinction between physical and mental wants is not wide nor always clear. The one mingles with, and shades up into, the other. We choose our clothes partly for comfort and partly for good looks, and we build our houses as much for our minds as for our bodies. We look for warmth, for durability of texture, and for substantial structures; but we seek, also, beauty of form, for gracefulness of style, and pleasing proportions.

As men emerge from savagery, and march upward in civilization, the mental wants advance beyond the physical, and the markets for these higher forms of value open and grow stronger. It is here that education, civilization, and morality become economic factors. They multiply and elevate desires, and diversify and improve products.

3. *Immediate and future wants.*—All wants are present as feelings, but some ask an immediate gratification, while others look to a future. The real want, in the latter case, is anticipated as likely to exist in coming time.

Immediate wants demand immediate gratification. They give motives for the purchase of goods already in market and ready for use. They are strong because immediate, and often

act with a much greater force than that of greater wants lying in the future. They are the actual market demand of the hour.

Future wants are the motives of prudence and economy, of business forecast and enterprise. It is this care for coming needs and gratifications which furnishes the motive power for the immense machinery and the grand movements of the industrial world. The accumulated wealth of mankind owes its existence to this regard for future wants, and its value is maintained by the faith men have in those wants. The difference between savage and civilized men, as also between the idle and improvident, and between the industrious and enterprising, lies largely in the different force which the future exercises over them.

In the estimation of the value of any article offered for sale, the present want is weighed against the future, and many exchanges of a less present value for a value greater but future, can be explained only in this way. A sad but forcible illustration of this improvidence is found in the inebriate who sacrifices all provision for his family and himself to the present gratification of his appetite.

Present gratifications are temporary; future ones are thought of as continuous or enduring, and they gain in power by this promise of permanency.

4. *Special and general wants.*—Special wants belong to particular occasions, or to individual men or classes. General wants are such as are common to the whole community. Special wants may be more or less limited, and the values answering to them will have a like limitation. When limited to a single person, as in case of an artificial tooth, the value, though real, lacks exchangeability—another proof that purchasing power is not identical with value.

Utility can never be wider than the desires it gratifies; but the value may be more widely recognized, and bought and sold by those who have no use for the goods. Special values will

obviously be more liable to fluctuations than those of more general character, because desires common to all are less likely to change or cease.

Certain special desires become so strong by habit as to become a sort of physical madness; as, for example, the appetite for opium, for tobacco, and for strong drinks. These seek their gratification at all hazards and at whatever cost. The enormous profits of the liquor traffic are due mainly to this cause. As in the case of monopoly, the seller plays upon the element of desire, almost without reference to the effort involved in the manufacture.

5. *Primary and secondary wants.*—Some goods give immediate gratification of themselves; others simply aid to obtain desirable things. Our desire for the former is a primary want; the desire for the latter may be called secondary. Man's desire for bread is primary; he wants it for the gratification it gives. But the desire for a plow is secondary; it is wanted as a means of getting bread.

Secondary wants come from the primary. The need for the plow is derived from the need for bread. The value of secondary gratifications depends therefore upon that of the primary.

In the business world, secondary wants are most numerous. Lands, store-houses, money, merchandise, ships, carts, manufacturing machinery, and tools are wanted not to gratify the primary desire for enjoyment, but as a means of winning wealth and getting other enjoyments.

As the business wants are chiefly secondary, so the values engaged are mostly secondary. Men trade on the desires of other men. They manufacture and buy and sell to gain wealth, though their ultimate aim is, of course, personal gratification. Hence, as we have seen elsewhere, in the common estimation of primary values, or goods for use, the trader weighs the desires of consumers, and not his own.

The love of wealth is, properly, a secondary desire, but it

may become primary. Men often seek wealth beyond all possible needs, from the simple love of gaining and having. They enjoy wealth as wealth. Its mere possession brings to them a certain power and influence which are a gratification. This constitutes an immense force in the business world. In its intenser form it makes the miser.

CHAPTER VII.

DEMAND AND SUPPLY.

71. Demand defined.—In pursuing the study of human wants, we come in sight of the oft-quoted, though not well-understood, law of supply and demand. We have already shown that demand-wants are such as men have the power and the will to gratify. The demand for any commodity is made up of all such desires for it as come to market to purchase. The demand for wheat, for example, will be made up of the wants of all who wish wheat for any purpose, and who are able and disposed to buy it.

Market, as commonly understood, means any customary public place of sale of one, or several, classes of commodities. In this chapter, and generally in political economy, the word is used to denote the aggregate need and disposition to purchase any given commodity, existing at any given place or time. Thus, the market for wheat is the demand for wheat by actual purchasers and consumers. In this sense of the term, there is no direct reference to any special place of sale.

The demand will never exceed the real or supposed wants of mankind; but it may, and often will, fall short of these wants; for those who can not produce or purchase the goods in question, must suppress their desire or find a substitute. There is always a volume of wants of this latter class which may, at any moment, when circumstances favor, be added to the actual demand. The demand of one day may be doubled the next if in any way the price is made, suddenly and largely, to decline.

72. Supply defined.—Supply, in its simplest definition, includes the goods, at any moment, held for sale. It is the amount of any given commodity available to meet the demand for that commodity. Goods not open to purchase, do not properly constitute any part of the supply. There are always large masses of wealth in the world which are not for sale. Men of wealth hold large estates of land, and numerous herds of domestic animals, to gratify their own love of grandeur and display. These lands and herds can not be counted as a part of the market supply of these goods. So, also, wheat may be held in reserve, for future use or for speculation; and in this case it is, for the time, withdrawn from market, and is counted as no part of the actual supply, though it remains a potential or possible supply.

In a general sense, it may be said that all the wealth of the world constitutes the supply of the world's wants; and in this sense all wants are demand, and all wealth is supply. But in the strict sense of the terms, as employed in the market laws of supply and demand, they must be understood as including only wants in market, and the goods offered for sale. The French economists call these, *l'offre et la demande*—the offer and the asking.

The demand and supply are not always those of the hour, but often necessarily include all that are to be met during a period of time. The harvest of the summer is the natural bread supply of the year. So the merchant imports his supply of goods for the season, and the demands in these cases include all the desires which will appear for gratification during the period.

It is obvious, from these statements, that demand and supply are not fixed quantities. Beyond the actual demand there is always a large possible demand, reaching out to the last limit of human wants. So beyond the actual supply, there is a large possible supply stretching to the entire mass of the production, actual or possible.

73. Demand and supply reciprocal.—These two, demand and supply, stand over against each other, the two gigantic factors or forces of the world's markets. Knit together by reciprocal relations, as the asking and offer, the desire and its gratification, they have long been recognized as giving law to market values and prices.

Each supposes the existence of the other. True demand is not a vague or indefinite desire for some gratification, but the specific desire for a known commodity. All men may like to ride and to enjoy the shelter of a roof, but the demand for actual horses known to be in market, and for mansions or houses known to be for sale, comes only from those who feel themselves able to purchase and possess these things. On the other hand, supply looks to existing desires and askings. It is the offer of goods to those thought to be purchasers.

The laws of supply and demand only exhibit, on a larger scale, the relations which exist between the two parties to a simple exchange or purchase. Demand is the aggregate desires of many purchasers, and supply the cumulate offer of many sellers. The difference between these aggregates and the simple cases which they involve, lies chiefly in the uncertainty as to the amounts of the aggregate demand and supply. In the simple exchange, the quantities are supposed to be in sight, and no question necessarily arises as to other desires or other offers. But in the grander market movements, the buyers and sellers are two uncounted multitudes partly hidden from sight. The number and extent of the wants, as also the sources and amount of the supplies, are always partially unknown.

The utility and necessity of the general law come from this uncertainty. A single instance requires no law. Its conditions are visible. It is only when we need to grasp a large class of cases, stretching beyond our power of vision, that we call in the aid of a general law or principle.

The law itself is discovered by the study of single cases. We mount from the particular to the general, only that we may

have the means to judge and determine all coming particulars. The law, once discovered, remains forever true, though we may find still some uncertainty in our application of it.

74. Laws of supply and demand.—The market laws of supply and demand may be stated as follows:

1. When demand and supply are equal, values and prices remain at their natural level, as determined by cost.

2. The supply remaining constant, the value will vary directly as the demand—that is, if the demand for an article increases, the value will increase; if the demand diminishes, the value will diminish, as shown by the prices, which are to be counted in general as the measure of value.

3. The demand remaining constant, values will vary inversely as the supply. Increase of supply will lower values, and decrease of supply will enhance them.

These laws may be more concisely stated in one as follows:
Values vary directly with the demand, and inversely with the supply.

It might seem wiser to state these laws as concerning prices, since it is the price that appears always to be affected by the variations in supply and demand; but the changes in price are supposed to represent changes in value (not in utility), and have no significance except as they do represent such changes. Economic science has nothing to do with false and fraudulent prices which represent only the fraud of the seller and the ignorance of the buyer. It is evident that a seller may ask more than the market or current price, and that an ignorant or careless customer may give what is asked, and that this may be done without any relation to the actual demand and supply, but such a case, however many times repeated, does not properly bring into question or doubt the laws already stated.

Thornton (on Labor) contradicts Mill and other economists, and affirms that selling prices never depend on supply and demand, basing his argument on the fact that sellers often fix their prices without reference to the supply of goods on hand. He loses sight of the fact that the merchant lays in his supply

to meet the demand of the season, and not the demand of the hour. He takes no account of the monopoly prices based on an artificial scarcity, caused by the seller's withholding his goods till his own price is offered.

As the real supply and demand can only be approximately known, each buyer and seller is left to make his own estimate of them, and hence there may be several prices asked and paid in the same market, the same day; but this does not disprove the law. It only proves that the law is operative as far as the facts are known, and no further.

The positive proof of the truth of the laws of supply and demand is to be found in the constant appeal made to them in actual life, and the constant efforts of traders to ascertain the real supply of their commodities.

75. The laws explicated.—The philosophy of these laws may easily be seen from the principles already stated in previous chapters. The increase of demand beyond supply is the excess of desire beyond the means of gratification. The consequent scarcity increases the difficulty of attainment, or the efforts required, and this in turn increases the value. But another, if not the chief reason of increase of price, is found in the partial monopoly which nearly always attends a sudden increase of demand. As only a part of the existing desires can be gratified, there are two or more buyers for each article to be sold, and the element of effort is pushed higher by the anxiety of each party not to go unsupplied.

In the case of diminished demand, another principle prevails. The diminution of demand leaves an excess of goods or gratifying power over the existing desires, or those of the period for which the supply is designed. Such excess having no desires to gratify, has, of course, no immediate value; but as this excess can not be separated from the part of the goods in demand, the loss of value tends to distribute itself over the entire quantity of goods of that kind.

Suppose a community to have a full supply of peaches to

meet all demands. Now let some sickness, or other cause, suddenly destroy half the demand for this fruit. It is evident that only half of the supply will be wanted; the other half, if there is no foreign demand, will be worthless, as there will be no buyers for it. Each seller, fearing to have the worthless surplus left in his hands, reduces his price in the hope of thus securing the sale of all his stock. Other dealers doing the same, the loss tends to spread itself over the entire stock on hand. If all had combined to destroy the excess, the price would have remained unaffected. Cases are not wanting in which owners have recognized the valueless character of the surplus, and have deliberately destroyed it rather than cheapen the price of their commodities, knowing, as they did, the difficulty of restoring prices to the old standard.

A varying supply presents, evidently, only the same cases conversely stated. The increase of supply works the same result as the decrease of demand; and the diminution of supply gives the effect of an increase of demand. There is, however, an important difference in the effects of the cases, as will be seen further on.

It is evident that the general law might be stated simply as the law of excess and deficiency of demand alone, or of supply alone. Thus it might read: *An excess of demand raises the value, and the deficiency of demand lowers it.* Or, leaving demand out of mention, we might read: *The excess of supply lowers values, and the deficiency of supply raises them.*

76. Limitations of these laws—upward.—These famous market laws, though involving important truths, are by no means so comprehensive and potential as they seem. There are other relations and reactions between supply and demand which essentially modify the force of these laws. An examination of the several cases in detail will show some noteworthy results.

Case 1.—Let the supply of any commodity become excessive. The immediate effect is to cheapen the price; but this cheapen-

ing brings the commodity within the purchasing power of a larger number of consumers, and thus increases the demand. This restores the equilibrium between the supply and demand, though at a lower level of value, and checks the fall of prices below that level. The introduction of the several inventions in cotton manufacturing machinery, greatly decreased the price of common calicos. The retail prices fell successively from fifty cents a yard to twenty-five, fifteen, and ten cents a yard. But at each reduction the demand increased and held the price firm till another improvement in manufacture multiplied again the supply and occasioned another fall. Thus, in nearly all cases the fall in price is followed immediately by an enlargement in the demand. But another reaction may set in if the fall in prices lessens too much the profits of production. In this case, the production will be abandoned by some of the manufacturers, or will be less urged, and so the equilibrium may be reached by lessening the supply.

Case 2.—Let demand be in excess, and an opposite train of consequences may follow. At first, the price rises in proportion to the scarcity. This increase of price drives from market the poorer class of consumers, and thus lessens demand. The equilibrium established again between the offer and the asking, the prices remain stationary, though at a higher level, till a further increase of demand repeats the process.

But the increase of price stimulates production, and thus increases again the supply, and the upward movement of prices is checked before they reach their highest possible limit.

Thus it will be seen that in both of these cases two sets of forces are at once set in motion to restore the balance between supply and demand so soon as it is disturbed in either direction. The normal condition is that of equilibrium between these two market factors, and they can not long be kept out of balance. Should the supply of any commodity be permanently shortened, the consumption would fall to the new point of supply, and remain there. Or, should any demand be permanently lessened,

as is often the case with goods out of fashion, the supply would be speedily reduced to the same level.

77. Limitations—downward.—In the two cases considered, the excess of supply or demand was supposed to result from an upward movement of desire or of production. Let us now consider the effect if the equilibrium is destroyed by the downward movement of either.

Case 3.—A diminution in demand would leave supply in excess, as certainly as an increase in production. And this excess, like the other, would reduce the price. But in this case the excess marks, not an increase of goods and of the general wealth, but a decrease either of desire or of purchasing power, since demand would fall with each. The new demand, springing from diminished price, will less often appear under these circumstances, and the balance between supply and demand must usually be reached by the path of diminished production. The changes of fashion afford many illustrations of this case. Goods out of fashion may, sometimes, find a limited increase of market among the poor, but not sufficient to maintain the manufacture. The hoop-skirt factories were soon out of work when these skirts went out of fashion.

Case 4.—Finally, a diminution in production may leave demand in excess, as surely as an increase in desires. But in this case, the diminished supply means, usually, diminished wealth, and not unfrequently, general distress and hard times. Short crops and the desolations of war afford us instances of such diminution of supply below the demand. The increasing prices may still lessen the number of purchasers, as in Case 2, but they rarely stimulate, to any great extent, the new production. The equilibrium is reached by the dying out of all demand which can not afford the gratification at the higher prices.

78. Artificial limitations.—Several other causes also interfere with the action of these laws of supply and demand:

1. The hope of a better market in future often leads to the withdrawal of goods from market, and to this extent relieves the glut by lessening the offer. This is feasible with goods which do not perish by storing, and with such, also, as have only a limited market. In the case of agricultural products, such as grain, fruits, and cattle, this withdrawal from sale is often dangerous and expensive. The fruits may decay, and the cattle must be fed.

2. When goods are sufficiently cheapened by an oversupply, they may sometimes find an outlet in foreign markets. The wonderful facilities of modern commerce have vastly diminished the dangers of both scarcity and glut, and have done much to maintain the equilibrium of markets and the steadiness of prices.

3. On the other side, the necessity of giving employment to labor, and to capital already invested, often compels continued production after supply is in excess. English manufacturers have lately been obliged to run their mills, sometimes at a loss upon the goods manufactured, in order to avoid a greater loss in the departure of their skilled operatives and the deterioration of their machinery. It is said that cargoes of English goods have sometimes been shipped to foreign markets to be sold under cost, in order to relieve the home market and give employment to men and machinery.

4. Monopolists sometimes interfere with the laws of supply and demand in order to maintain high prices. The monopolist restrains supply and creates an artificial scarcity. He does not subvert the law, but employs its force to his own advantage. This, it should be remembered, is an abuse of monopoly, not its necessary action.

5. Speculators create a false demand by exciting hopes of a large increase in values, without regard to the supply. They induce a feverish present demand for lands, grain, or stocks by skillfully parading the prospects of a larger future demand. While it continues, this fictitious demand is as powerful as a

real one to enhance values. It may be claimed, therefore, as a proof of the laws rather than as an exception to them.

79. Limitation by prospective and new utilities.—

1. As all business looks, partly at least, to future profits, and hence also to future production, present prices must necessarily feel the influence of prospective supplies or demands. The promise of a large harvest in the coming season, will often act like a present increase of supply, and lower the price of the grain on hand. The prospect of a large importation of goods from abroad, will diminish the value of the same kinds of goods at home.

On the other hand, the fear of a poor harvest will increase the demand for the present supply of breadstuffs, and will give it additional value. The interruption of trade with the tar and turpentine producers of North Carolina, at the opening of the war, more than doubled the price of all the turpentine then in market.

2. The discovery of a cheaper or better substitute for any commodity in market, will have the same effect as a large increase of the supply of that commodity. The invention of paper speedily drove parchment out of the book market by reducing its value below its cost. So also the art of printing ruined the business of the manuscript writers, by multiplying the supply of books. The products of the power-looms have in the same way displaced the expensive coarser fabrics made upon the hand-looms of earlier times.

3. The finding of a new use for any commodity gives a new demand for it, which is equivalent to increasing the old demand. The invention of straw wrapping-paper gave a new demand for, and an increased value to, straw in the neighborhood of the mills. The many new uses found for iron in modern machinery, railroads, and iron ships multiplied many times over the demand for this useful metal, and must have raised enormously its value had not the stimulated production kept near pace with the need. Nickel was discovered in 1751, and

had some value for such alloys as German silver; but it was not till after the discovery of its use in nickel-plating, a few years ago (1869), that the demand became important.

80. The laws vary with goods.—The action of the laws of supply and demand varies somewhat with different classes of goods. Goods which are necessities, because demanded by the vital wants, can never go wholly out of quest, though the consumption of them may be largely reduced in a time of scarcity. Luxuries, on the other hand, may be driven out of use, or nearly so, if the diminished supply shall raise the price too far. Articles, whose use may easily be dispensed with without much loss of pleasure, will disappear from the market on a slight increase of price; but indispensable goods, such as the breadstuffs, will bear any increase of price up to the full purchasing ability of the consumers. During the civil war, the sale of books was said to have largely diminished; but the sale of newspapers increased, as tidings from kindred in the army were felt to be a necessity. During the siege of Paris, by Henry IV., the price of wheat rose to fifty times its ordinary value.

In the case of excess of supply, the prices of luxuries will fall, other things being equal, faster and farther than those of necessities.

The cost of production, including all expenses of manufacture, preservation, and transportation, may be regarded as the lowest limit of natural value. Necessaries will easily be forced down in price, below this limit, by overproduction; but many of the so-called luxuries frequently fall below it by changes in fashion. Auctions and other forced sales of such commodities are common. The durability of goods, and the probabilities of future demands or supplies, will, of course, modify the result in each class of goods.

Articles of secondary or indirect utility, such as tools, machines, seed, and laboring animals, used in the production of goods of primary and direct utility, must usually be reckoned

as necessities, in the case of diminishing supply; but as luxuries in case of excess. A soldier or hunter will sacrifice his clothing, and often his food, rather than part with his gun; but the extra gun is easily thrown away, or sold for a trifle, when he is on march. Governments, very properly, guard the implements of labor from being seized for ordinary debts.

81. The laws defended.—The formulas of supply and demand have sometimes been ridiculed by a certain class of economists; while they have been denounced, by socialists and communists, as unnatural, iniquitous, and fit only to be abolished. But, as we have seen, these laws are nothing but the enlargement of the facts found in every act of exchange of values.

Properly understood, the laws of supply and demand are as valid and as uniform as any of the laws of nature. They are not to be discredited by seeming exceptions, nor by the modifications in results produced by other forces or environments.

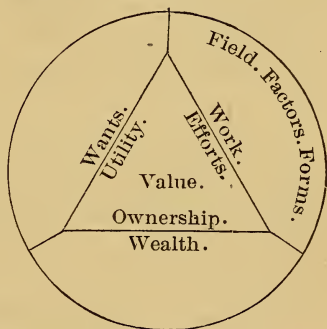
These laws must forever remain the chief guides for practical men in the prosecution of wealth-creating or wealth-distributing business. But here, as elsewhere, such men must learn to judge between the real and the false, and, amid the complex, to discriminate the essential from the accidental. In the applications of all sciences, such sound judgment and practical skill must be employed, and this is accepted, by all fair reasoners, as an essential condition of the problems under these sciences. Science is light; but it requires good eye-sight to use it for the best.

The discussion of this subject might properly enough have been deferred to another branch of the science—that of exchange—with which it has a close connection; but it seemed better to keep it in its place as a part of the field and phenomena of wants.

CHAPTER VIII.

WORK.

82. The work segment.—We pass now to another segment of our economic circle. The good Saxon word *Work* will serve us better than the Latin *labor* to cover that great middle ground of economic science which lies between Wants and Wealth. Even in common speech the word *work* is wider in meaning than the word *labor*. Men apply it to all voluntary efforts of mind or body—of individuals or society—to promote useful or beneficial ends; and it covers all production, from the humblest work of man to the mightiest, divinest work of God.



The term *labor* has a more restricted meaning. It is the effort put forth to effect some given change or to produce some given result. Men employ *labor* to accomplish their work.

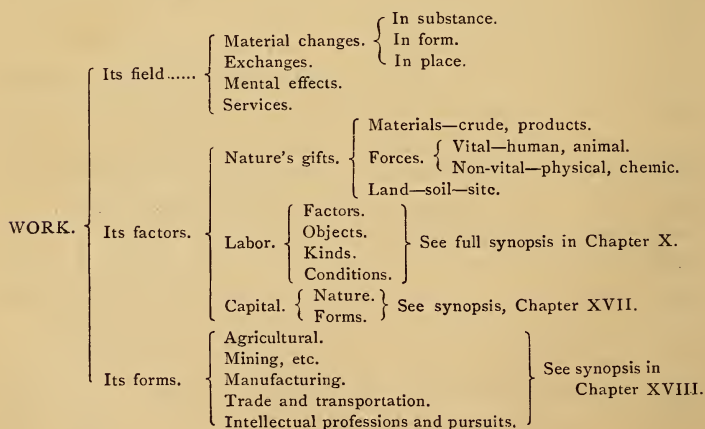
83. The segment defined.—As shown in Chapter I, work takes its motives and its direction from the wants of man. These set in motion the giant wheels of all our industries, and choose for them the rich and coveted objects of their efforts.

So, also, as shown in the same chapter, work finds its destined end and completion in the wealth it creates. The magnificent industrial movement ripens and rounds up into the

equally magnificent result. In Chapter IV, we have seen that work furnishes the second essential element in value. The effort side of the triangle of value marks the presence of work. No article, however useful, can have true and full value till the hand of toil has touched it, or till the shadow of past or coming work has fallen upon it.

84. Work explicated.—Work in its largest sense, the sense in which we use it in this chapter, includes the entire volume and variety of activities which fill the business world. Each man's trade, profession, or vocation is his work. Be it with brain or hand, on land or sea, in shop or field or store, with pen or plow, as master or as man, inventing, constructing, managing, serving, laboring, trading, or conserving,—all activity which aims to create, increase, or exchange values, to gratify desires or prevent pains,—all come under the great name work.

As work is the wealth-producer, its discussion will necessarily cover that field in economic science known in most of the books as production. The following synoptic view will exhibit something of the extent and distribution of this field :



85. The field of work.—Man's work lies with the world. In his business of wealth-making, or in that broader business of maintaining life, increasing happiness, and elevating his condition, he finds before him nothing but the naked planet on which he lives, and his own physical and intellectual powers. The entire field and problem of his work must be found in these. He can not go outside of these; he can import nothing from other realms.

If, now, the question be put, What can his work do? the response comes, simple and plain, it can do four things, no more: 1. It can change material things, change them in substance or mixture, in form and in place. 2. It can exchange its products with other workers. 3. It can produce mental effects,—ideas, arts, sciences, civilization. 4. It can render services directly to mankind. These four include all trades, professions, and employments; all the innumerable forms of man's work; all the ceaseless activities of the business world.

86. Substance-changing work.—The changes in material things, effected by work, constitute the field of the proper productive industries. The change in substance, or, more properly, in the mixture or composition of substances, gives us:

1. Agriculture, which, by the aid of natural forces, changes soil and its adjuncts to vegetables, and these again to animal substance. In economics, agriculture is understood to include all those industries which simply collect nature's growths, without first cultivating them. Thus, lumbering, hunting, and fishing may be counted as branches of agriculture, though the lumberman simply takes the trees from the wild forests; the hunter collects the meats, skins, feathers, furs, and ivories of animals which grew without his care, in their native haunts; and the fishermen fetch from the lakes, rivers, and seas, the fish which cost them only the labor of catching. At its outset all agriculture gathered nature's spontaneous products.

Agriculture, it is evident, deals with the life-forces of nature and their products. It takes nature at its highest and best, and

finds for man the nearly ready supply of his first and simplest wants.

2. The substance-changing industries include mining and the metallurgic arts which dig the ores and extract the metals, or bring us the coal from its native beds.

3. They include, also, the chemical manufactures, as those of oils, paints, drugs, artificial condiments, perfumes, and all the various preparations of animal and vegetable substances for the arts or appetites of men. Many of these approach, in their economic characters and conditions, the ordinary manufactures.

87. Form-changing work.—The changes in material forms occupy what may be called the mechanic manufactures. Their aim is not like that of agriculture, to collect utilities already produced by nature, but, out of crude and otherwise useless materials, to shape new utilities, devised by the thought of man, so that the iron becomes a ship, the tree a table, and the stone a house. They include the great staple industries of all nations and all times,—the house-building, the cloth-making, and the tool-making arts, in all their wide variety of products, from the hut to the palace, from the sackcloth to the finest lace, and from the simplest lever to the watch-making machinery, the eighty-ton steam hammer, and the dividing machine which graduates the meridian circle to a fineness that demands the microscope to discern its marks.

They comprise, also, the almost innumerable fabrications in which the brute matter and dumb forces of nature are transformed into a great army of silent and obedient slaves and helpers to mankind, to draw his vehicles, carry his messages, do his drudgery, fight his battles, increase his powers, multiply his wealth, and give him wider dominion over the land and over the sea.

In these arts, nature is taken at its lowest—its unorganized matter—and man at his best, putting his thought and will into crude matter, and making it to assume shapes and to yield utilities which nature never dreamt of.

88. Place-changing work.—The change in place is the work of transportation. Its necessity comes from the desire of men to collect and enjoy, at their homes, the varied products of distant lands and of differing climes. Sitting under his own vine and fig-tree, man would eat the fruits of the tropics, clothe himself with the furs of the arctics, the linen of Ireland, the silks of France, and the soft wools of Saxony or Cashmere. On his breakfast table, he wishes the coffee of Arabia, the tea from China, the sugar of the West Indies, and the spices of the East—fruits, fish, flesh, and bread, each from a different and perhaps distant locality. To get these, the long lines of transportation must be worked—ships must sail, caravans must travel, rail-cars run; and great store-houses must receive, preserve, and distribute the surplus products of each and every land.

Transportation, as an industry, is usually united with that of trade or exchange, but it has its own arts, laws, and conditions, which the economist must study. It creates values as truly as the other arts, though it adds not a single bushel to the wheat it carries, nor works a single change in the form of the goods it distributes. It does not deal with nature directly, low or high, as do the great industries of the field and the shop, except as it employs her forces to waft its ships and drag its trains. It might appropriately be called the service-industry, since its mission is to run our errands, carry our packages to our neighbors, and bring back theirs to us.

89. Exchange.—We have considered the first of the four great fields open to man's work—the field in which man meets nature, and exerts his powers to effect useful changes in her materials and products. In the second field, that of exchange, to which we now come, man meets man. He comes as the owner of wealth, which he does not need for his personal gratification, to exchange it for the surplus goods of another. Exchange, seemingly so simple and unimportant, forms one of the widest and most difficult fields of Political Economy. Constitut-

ing one of the most striking differences which distinguish men from brutes, it lies at the basis of human civilization, if not of man's power to stay permanently upon the earth. The right to exchange hangs upon the right to possess, and gives to that right its chief importance. Wealth is possible, and worth having, only through this power to exchange it for all objects of desire. The wider discussion of this field must be left for coming chapters.

90. Intellectual work.—The third field of work takes us out of the domain of material goods into the sphere of man's intellectual life and powers. Human efforts do not expend themselves wholly upon the outer world; there is a world within, a world of ideas, in which man is also a worker. There are industries of the intellect just as onerous and as important as those of the physical powers. Indeed, all proper industry begins with a mental movement; and the physical effort only gives form and effect to what the mind had already shaped in idea. Some knowledge of nature's laws must precede the mastery of her forces and the proper use of her materials.

There has been a question whether intellectual forces are economic factors, and whether intellectual products are economic goods; but there can be no question as to the part that these intellectual powers and products play in the world of the industries. The scientific investigator and explorer sometimes discovers facts which revolutionize industry and lend to it a productiveness manifold greater than that which it had previously possessed. The discoverer of the magnet made modern commerce possible. The studies of Galvani and his successors have given to us the telegraph and telephone, electro-plating, electrotpe, and the powerful and fast-prevailing electric light. They bid fair to give us, ere long, a motor force which shall surpass all others, and lift us to achievements heretofore impossible.

The inventor who is also an intellectual worker, turns the work of the investigator to account, and harnesses the new

found fact or force to its task in the arts. The great patent offices of Europe and America are full of their work; and governments, by their letters-patent, recognize the property value of their ideas.

Authors, scholars, orators, teachers, lawyers, poets, preachers, artists, and statesmen, all belong to the guilds of intellectual workers, and all have their place in the world of work. All are counted worthy of wages by their fellow-men, and their wages are relatively large.

The number of intellectual workers always increases as civilization advances; and one of the plainest results of our modern improvements in the arts, is the release of men, more and more, from merely physical toil and drudgery, and their elevation to the position of brain-workers. Arms of iron and fingers of steel now do the hardest of the work, while the human laborer furnishes the eyes to watch the processes, and the hand to arrange the task and summon the power.

91. Service work.—In the fourth and final field of work, we find the worker ministering directly to the gratification of his employer. This ministration we call service. The worker in this field fabricates no goods, offers no exchanges, aims at no mere intellectual effects. He simply meets, by some act, another's wants. He who brushes our clothes, or brings our dinner, drives our carriage, or watches by our bedside when we are sick, does us a valuable service, and we recognize its value by giving value in exchange. For there are intellectual as well as physical services. The lawyer, the teacher, the singer, and many other professional and artist classes, render services, either personal or public.

The chief criterion of service is that it yields gratification without producing valuable goods. It does for us directly what the goods are designed to do—meets our wants or desires. But this test is not of universal application. Many services are a part of the necessary labor of production. Thus, the cook who prepares our dinner adds to the value of the food as much as

the miller who grinds the wheat into flour. Service employs no small part of the working forces of the world. Myriads of services are rendered gratuitously, by friend to friend, by kindred and neighbors, and even by strangers. They may all be counted as contributions to the common good, if not to wealth, in so far as they save goods, conserve force, and advance well-being.

We have thus glanced at the great subdivisions of that field in which the working power of the world finds its daily employment. This survey will help us to study, with more clearness, the factors, or agencies, and instruments by which man effects his purposes. It is not needful to anticipate here the discussion of these factors, each of which will demand its separate chapter or chapters.

In the examination of the chief forms of industry, each of which will also ask its own chapter, we shall revisit, from a new line of approach, and see under a different light the fields here explained.

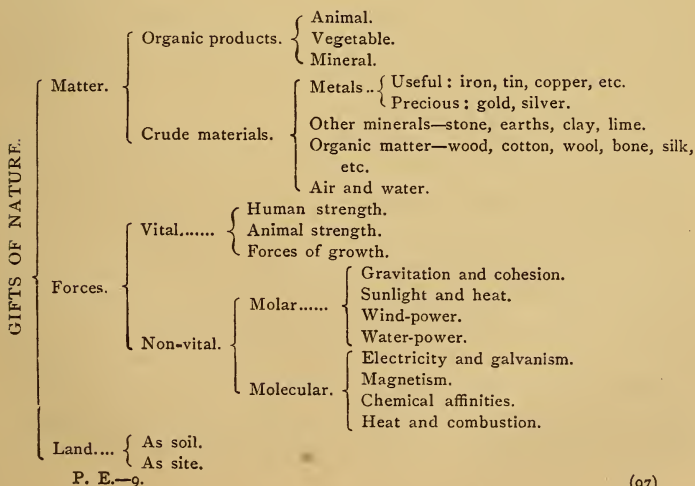
CHAPTER IX.

THE GIFTS OF NATURE.

92. General view.—We come now to the factors which necessarily enter into all of man's work. They are these three:
1. *The gifts of nature*; 2. *Labor*; 3. *Capital*.

Before acquiring any thing of his own, man must take from existing things around him. His work presupposes matter and its laws.

Nature, or the world of matter and force, presents to mankind and their industries, an endless variety of substance, forms, and forces. To measure properly the economic character and influence of these, they must be divided into their proper classes. The following diagram will bring these classes under the eye at once :



This classification is economic, not scientific. In a scientific classification, water-power is a form of gravitation, and wind and steam are results of heat. The division lines in science are never fixed and impassible. Class melts into class by insensible gradations.

93. Nature's gifts control industry.—These so-called gifts of nature, though without any proper value, have often the highest utility, and are among the most important economic facts and forces. They furnish the solid basis of all values, and their abundance or scarcity in any region, potentially affects and controls the industries of that region.

In tropical climates, the gifts of nature so nearly meet the common wants of man as to seriously discourage industry. The spontaneous growths of edible fruits and vegetables provide the indolent natives with food; the warm air renders clothing nearly useless except for decency, and the shade of the trees shelters from the sunshine. Except to guard against the attacks of wild beasts, and to protect from the occasional storms, houses would be needless, and the simplest inclosure, with roof of boughs or bark, serves as domicile and home. Store-houses and barns are unknown. When commerce tempts them with its offers of useful exchanges, the labor is often limited to a more abundant gathering of the spontaneous products of their prolific soil and clime.

In the arctic regions, on the contrary, nature is so chary of its higher gifts, that the laboring power of the inhabitants is mostly exhausted in the toil of procuring the merest necessities of life. If the desire is ever awakened to engage in higher and more productive arts, the rigors of the climate, and the absence of favoring conditions, would make them powerless against the rivalries of more temperate and propitious climes. The fields of ice and snow offer poor soil for seed-sowing, and the scant sunshine of the brief summer could ripen only the hardiest plants. The darkness and cold of the arctic winter would compel a suspension of most manufactures, and commerce

would find in the dog-sleds but a poor substitute for the railroads and canals, snow-bound and ice-bound through so many months.

The temperate regions are the natural homes of the industrial arts. Here the impulse to work is strongest, and the opportunities are most favoring. Earth and sky conspire to stimulate and aid the work-spirit in mankind. Nature refuses him food without labor; but she responds so liberally to his efforts that the surplus invites him to traffic, or affords him support and leisure for all his arts.

It is obvious that the practical problems of economics will vary in the different zones almost as much as the zones themselves differ. Both man and his work change as they cross the lines of latitude.

94. How nature helps arts.—The presence or absence of minerals and other materials, of food supplies, of coal for the generation of steam- and of water-power, also give direction, and put limitations, to human industry. English statesmen and economists have already begun to express fears for the future of their island, in view of the rapid consumption of their coal supplies. But the influence of these circumstances has largely diminished since the railroad, the steamship, and the telegraph have so far overcome the barriers of time and distance; and electricity or other new motors may relieve their fears long ere the coal-beds have been exhausted.

A careful study of the history of human industries and arts, would doubtless show that the forms and the processes of nature have frequently, if not usually, furnished man the hints for his inventions. The mechanism of his own body has taught him the devices for a hundred machines, and his agriculture is but a late imitation of nature's planting and sowing. The coming arts and industries of mankind will doubtless be still more indebted to nature's gifts. Since modern science began in earnest, the closer and more comprehensive study of nature, the arts have made strides hitherto unprecedented in their

history; and the new victories have been won just where the facts of nature have come most to be understood.

95. Unappropriated gifts.—There is a class of nature's gifts which are too abundant to be appropriated, and which can never, under ordinary circumstances, have any value in the markets. Such are the atmosphere, the light and heat of the sun, gravitation, climate, the rain and snow, the rivers and seas, and, in most cases, potable water. All these have high utility, and are indispensable to mankind. Yet they are no man's property, and are bought and sold in no market; except in the case of water in time of drought, and in the great cities. But, like all other gifts of nature, these can not be utilized in the arts, except under conditions which cost effort and have value. The wind is free, but we must have sails if we will have it waft our ships.

We have already noted how climates, including the elements of the light and heat of the sun, influence the industrial pursuits of whole populations. But there are other important economic influences and relations of these great natural agencies which can not be omitted in the broadest view of Political Economy. From the moment that man places himself over against the world of matter, to subdue and use it, from that moment every aspect and agency of nature comes to have an economic bearing. The Gulf Stream has played, and still plays, as important a part in the Political Economy of England as do the coal-beds hidden under her soil. The coast lines of Europe have determined the commerce of Europe, and this in turn has influenced European production and wealth.

Climate, soil, food, and water influence the health of a population, and health reacts on their industries.

Dr. Roscher has collected many interesting facts which illustrate the influence of external nature, the sea and the climate, on the courses and success of the industries of different peoples. Owing to the great oceanic currents, "England is nearer to almost all the important mercantile coasts of the world, by

three hundred geographical miles, than the eastern states of the American union."

"The more remote a country is from the equator, the more is its fertility confined to its lowest parts. Greater heat will, as a rule, ripen the same product sooner, and thus permit the same land to be used several times in a year." "In central Germany, even a second crop can be produced after the corn harvest. In Arabia, the same seed produces three harvests, because the grain which falls at the time of harvesting germinates immediately, and suffices for new seed."

96. Natural products.—In this class of nature's gifts are included all those which are ready, without change, or with such slight changes as do not destroy their character, to satisfy human wants. Thus, the edible plants, fruits, grains, and roots, with or without cooking, give man food. The forests and coal-beds give him fuel with no change but that of cutting or digging. The animals to carry him, or give him their flesh, milk, and eggs to feed him. The mineral world gives him salt for his viands, water for his thirst, and air for his breath. In all these cases, the utility is given by nature; man's art does nothing but collect and appropriate the products of nature's own labor; or if, as in agriculture, man also labors, it is with nature, and as her assistant. The lower animals, without art or labor, share with man in many of these gifts.

If all of nature's gifts had been of this class, or if she had in this manner provided for all the wants of man, then human industry might never have existed, and economic science would have had no field. Arts would have been as needless to man as they are to the animal tribes. As we have seen, even the abundance of these products, in the tropical regions, leaves mankind with little occasion, and with still less disposition, to labor.

It is obvious that as these products of nature's organic forces require less of man's labor to fit them for his use, so also they afford less scope for man's arts than do the crude forms of

matter. We shall find this an important economic fact in judging the value of the different forms of labor.

These products appeal to the vital wants of man, incessant, pressing, immediate, but chiefly animal and sensuous. They are thus the more useful, but the less valuable, portion of man's wealth. In time of great need, all other wealth will be readily given for these food products; but in times of ordinary abundance men give dollars for manufactured goods where they give only a few cents for bread and meat.

97. Crude materials.—Most of the substances met in nature have no immediate use for man. They feed no appetite, gratify no desire; they simply help to make up the world. But to human art they are the materials for its work, and it gives to this crude matter shapes which make it highly useful. Many animal and vegetable substances, such as wool, silk, hides, bones, shell, wood, cotton, flax, are included in this class of substances, because they are employed as materials and not as products useful in themselves. They are substances out of which art may manufacture its useful goods. The utility is chiefly in the form of construction of such goods, and not in their materials. To the worthless, man gives the highest values known in the markets.

Out of the metals, in themselves useless and inconvenient, work brings the myriad articles of use and beauty which fill our houses with convenience and comfort, our mills with powerful machinery, our roads with vehicles, our shops and fields with tools, and cover our rivers and seas with ships and swift-sailing steamers. Out of the wood, fit, as nature gives it, only for fuel, art constructs our houses, our furniture, and a host of utilities to help human life in its conflicts for existence, happiness, and progress. And so through the entire range of crude matter, nature gives things in themselves worthless; but work changes them into goods of highest use, and into treasures of countless wealth.

Here in this field of brute matter, art wins its greatest tri-

umphs and gains its richest rewards. Out of this comes the largest part of the world's riches, and here economic science finds some of its most difficult problems.

98. Products of nature and art contrasted.—A look through the great marts of trade will tell us that nature's products fill but a small space there, and that manufactured goods—goods for which nature furnished material only, and labor gave valuable forms—fill the great ware-houses. Most of the permanent wealth of the world belongs to this class. The houses dotting the farms and walling in the streets of the great cities; the cultivated lands, won from weeds and wildness by years of skillful tillage; the roads, railroads, and paved streets; the great mills and their costly machinery; the innumerable wares, woven, forged, cast, wrought, pressed, printed, or shaped by hands of men or hands of iron; the beautiful works of higher art,—these fill the endless pages of the inventories of wealth.

The products of nature are fitted mostly to gratify the lower, animal wants of mankind. Manufactured goods are, in general, intended for higher gratifications. Nature satisfies the brute and the savage; but art labors to afford joy and satisfaction to the children of civilization.

The forms and properties of nature's products are nearly fixed. They may be enlarged, improved, and multiplied by the skill of man, but the natural type remains visible through all changes. The goods wrought by art, from nature's crude materials, have an endless variety, and fresh novelties are added almost daily to the list. Hence, the production may go on endlessly since it may perpetually choose new forms and objects—new desires to gratify and new gratifications for the old.

99. Natural forces.—The forces of nature stand next in the catalogue of her gifts. All work—all changes in matter—imply force as their efficient agent. Physical changes presuppose physical forces, and these must come from nature. Of nature's forces we know little. They are the unknown causes

of known and visible effects. Whether they are all distinct and different, or are merely the differing forms of a common energy, it is of little use to inquire. As economic facts, these forces differ in rank and worth.

Force is never an absolutely free gift of nature. Human strength must be nourished and educated before it is useful; animals must be tamed, trained, fed, and cared for; and the non-vital forces must be fitted with the proper machinery before they can be made to do useful work.

First in the rank of forces stand the vital, and first among the vital stand the human, and first among the human stand the mental or brain forces, if we may separate the brain power from the bodily forces.

100. Human strength.—The mental, or rather the brain and nerve force, stands most nearly connected with the mind which controls all by its intelligence. It is not necessary to discuss here the real relations of mind and matter. Taking the mind or intelligence as a palpable and admitted fact, we may confine our view to the physical side of being. On this side, man's power, or strength, rather, is a gift of nature as much as is that of the animals which serve him. Man, it is true, is reared for his manhood, not simply for his labor. The wants of childhood are as much the ultimate end and use of wealth as those of manhood. But, as an economic force, we must take account of the cost and productiveness of human strength as we would of any other agent used in our work. The proper and full showing of this cost belongs to another chapter—that on labor.

Whatever the aids man may summon by his arts, from natural forces and mechanical devices, human strength can never be dispensed with in the field of the industries. Above the machine always stands the man. Even the business of supervision—the work of eyes and brain—demands a certain outlay of physical energy. The hand of the machinist comes before the machine which he constructs; and the hand of the engi-

neer, or other attendant, must remain upon the machine till its work is done. As to fact, the wide introduction of so-called labor-saving machinery, in modern times, has greatly increased the demand for human labor, in place of diminishing it. It has simply transferred the man to another, and generally to a higher, sphere of work.

101. Animal strength.—The strength of the domesticated animals—the first force which man learned to employ next his own—has also been crowded out of its old places in the industries. Water, wind, and steam have shown themselves cheaper, mightier, and more manageable servants than the ox and the horse. But, like their masters and drivers, these animals have found themselves not dismissed from labor, but only transferred to new fields. It was thought that the railroads, which displaced the old stage coaches, would also render thousands of horses useless; but the result shows that the demand for horses was increased. New routes were found for many of the coaches, and a multitude of cars and carts came into demand to transport people and packages to and from the railway stations. Agriculture and other industries also took on immense growths, making new requisitions for the draft animals; and hence the animal forces, instead of disappearing from our industries, hold now, among these industries, a larger place than ever.

102. Forces of growth.—The silent, vital forces employed by nature to build up her forests and to clothe her fields with vegetation, as also those which work out the tissues and organs of animal life, are implied and embraced in the organic gifts which they create.

In the great agricultural industries, the forces of plant-growth have for ages been the chief reliance of the grain-raisers and the forest and fruit-growers. To stimulate these forces by cultivation, to nourish them by fertilizers, to direct them by selections of seed and soil, by grafting and pruning,—these make up much of agricultural art.

But with the advance of biological science, and in the farmer's and stock-breeder's art, these forces are coming to be counted on and employed as the mechanician counts on and employs the energies of steam and electricity. Thus they are now to be reckoned among the costly and controllable economic forces, to be taken into account in the computations of values.

103. Economic production a problem of force.—In the final analysis, all economic questions, in the production and consumption of wealth, reduce to the question of the economy and conservation of energies—the silent energies of nature above all others. The productive power of the soil, the working power of the domestic animals, and the steam or electric power generated by the consumption of costly fuels, all alike belong to these silent molecular energies. The foods or other gratifications which they produce, are only stored-up energy, ready to be transformed, in turn, to the finer energies of human life and happiness.

104. Non-vital forces.—The non-vital or inanimate forces of nature can only be employed through machinery costing great skill in its invention, construction, and management. But, when thus harnessed and controlled, these forces work with a tireless power and steadiness which defy the competition of human energies. The most conspicuous feature of the industrial progress of this century, is the rapid multiplication and perfection of power-machinery of all sorts. Its triumphs are still extending: 1. In the variety of purposes to which it is applied, leaving no field of industry uninvaded; 2. In the perfection and abundance of its work, surpassing skilled labor in some of its very strongholds, such as watch-making and bank-note engraving, and so abundantly that a watch may now be had for five dollars, and even less; and, 3. In man's increasing mastery over these forces, enabling him to cheapen the use of the older forces of wind and water, and to introduce new forces, as in the heat engine and the electric motors.

It was estimated, in 1876, that the steam-power then in use throughout the world, amounted to fifteen million horse-power; and that, if worked continuously, it would do the work of sixty million horses. Stephenson's first railroad locomotive, built in 1814, could run six miles an hour. Locomotives have lately drawn trains ninety miles the hour. The Rocket, the first locomotive of the first regular railroad, the Liverpool and Manchester Railway, weighed four and one-fourth tons. Locomotives are now made which weigh nearly one hundred tons.

The non-vital forces which nature offers for the service of man are usually divided into the molar forces, or those which affect masses of matter and produce sensible movements, and the molecular, or those which act upon the molecules of matter and produce motions inappreciable by the senses. In their origin all known forces are molecular, the largest motions growing out of the minute and insensible.

The molar forces, embracing the power of moving winds, of falling waters, the down-pulling weight, and the coiled spring, early attracted attention, and were utilized in the arts. Their sensible character made it easy to invent the sails, the water-wheel, and the pulley, which served to harness them to their work. But their utility was limited to times and conditions which prevented their general employment.

The molecular forces of electricity, magnetism, chemical affinities, and, above all, the steam-generating heat, have come forth only at the bidding of science, but their omnipotence and their independence of favoring times and localities have given them a sudden acceptance and a universal employment.

105. The land gift.—Land, as a gift of nature and a factor in the world's work, might seem properly to belong partly to the class of crude matter and partly to the non-vital forces which alone make the soil productive. But the land problems hold so important a place in Political Economy as to ask separate treatment.

Land, as an economic fact, is both important and peculiar.

As constituting the habitable part of the globe, all human life must have a part in its occupation. As the theater of all established industrial operations, it is a prime necessity to such operations. As the source of nearly all the food supplies, and thus of man's continued stay in life, its cultivation fills the first place among human employments. As a form of permanent investment of wealth, its security and other advantages are so unique and superior as to claim for it a still higher consideration. And, finally, its connections as territory, with social and national life and power, force it perpetually to the front in all great political interests and questions. The peculiarity and importance of its economic character are attested by the space given to its discussion among the economists, and by the diversity of views presented in their discussions.

106. Land as soil.—Land as soil is useful in proportion to its productiveness, and its nearness to markets.

Its productiveness depends: (1.) Upon its composition and that of the subsoil; (2.) Upon the climate in which it lies; (3.) Upon its elevation, slope, and exposure; (4.) Upon the irrigation and drainage required and possible to it; (5.) Upon the fertilization needed or applicable to it; (6.) Upon the crops to which it is adapted; (7.) Upon the kind and amount of cultivation to be employed. The character, amount, and value of the crops will depend, in part, upon all of these. The discussion of the extent of the influence of these several circumstances would occupy more space than can be given in this chapter.

The nearness to markets affects the value of land because of the time and labor required to get its crops to the place of sale. Many of the coarser products are so great in bulk in proportion to their value, that they will not pay for long transportation. There is a distance at which the cost of carrying a ton of hay will equal the value of the hay itself. In this case, the farmer will simply be paid for his labor of transportation, and not at all for his hay. All less distances will evidently consume

some part of the price of the hay in the cost of carrying. Potatoes can usually be carried farther than hay without using up the value in transportation; Indian corn farther than potatoes; wheat farther than corn; animals farther than grain; and dairy products farther than animals. Tea, coffee, and spices will bear longer transportation than ordinary food products. Thus, all transportation may be regarded as a direct charge or tax upon the land, and must be deducted from its value.

The adaptation of the products to the market, and the competition to be met in such market, must also be taken into the economic account. So, also, must we take account of the return supplies to be obtained from the market, since these too cost something for transportation.

In this discussion of the nature of land values, no mention has been made of mineral products found in the earth. If the land covers a gold mine, or mines of iron or other metals, it has an independent value, and high in proportion to the richness and accessibility of its ores. So, also, coal-beds beneath the surface, or forests standing upon it, give each a distinct increment of value. But the value of mines must be considered as something distinct from the value of soil. If the land is taken into consideration at all in mining, it is simply as including the right to the mines, or as a site for the above-ground works connected with the mine.

107. Land as site.—Land as a site is useful for the space and support it affords for the property or works to be placed upon it. For this purpose it matters little whether it consists of richest mold, of rocks, or of barren sand; what is wanted is space and situation. For these purposes the values are sometimes enormous. In great cities, plots of ground, fronting upon business streets, have been sold for four thousand dollars for each foot of frontage. Residence lots on fashionable streets also bring incredible prices.

Land as a site varies in value with the presence or absence of adjacent population; with the proximity to roads, rivers,

harbors, cities, markets, and other civic or economic institutions; and, finally, with its adaptations to the uses for which it is desired, as a place of abode or of business.

108. Land values also include effort.—In this discussion of the value of lands, it is to be understood that the value meant is a possible rather than an actual value. Land and mines offer no real exception to the doctrine of value, heretofore given, as requiring effort as one of its essential elements. Neither lands nor mines, as they lie in nature, have any true value. The value is given to them by the work which affects their situation or surroundings. Just as surplus and therefore worthless products of one country become valuable by the work of transporting them to another—to the vicinity of those who need them—so land becomes valuable, not by transporting it to the people who will use it, but by transporting these people to or towards it. When we open new roads, or railroads, into unoccupied territory, we say we are bringing its lands into market. We mean that we are bringing the market to the lands. Speculators buy the lands in anticipation of their coming value. Let it be certain that no immigration will ever reach them, and the shadowy value reflected upon them, in anticipation of their coming value, will fade out at once.

When the immigrants come, and begin their work of improvement, every road they make and every house they build, reflects something of possible value upon the wild lands near them; for, as we have seen, soil has two elements of value—its productiveness and its nearness to markets.

So, also, mines are counted valuable in anticipation of the values to be given to them by the workers to come. These prospective values are not uncommon in other spheres. The surplus wheat of this year has a value in view of the probable wants of the year to come.

But neither in lands or mines is the value so large as speculation represents it. In strict truth, it is found, in the long run, that metals are worth what it costs to mine and smelt them;

and lands, after they are fully improved, can nearly always be bought for what the improvements cost, often for less.

The illusion which exists in regard to land, mines, and other gifts of nature (for it is an illusion to count them as valuable in their natural state*), comes from the failure to discriminate between utility and value. Where there is evident utility, men readily conclude there must be value. The Scotch farmer, who found some garnets and other precious stones among the rocks on his land, thought himself wealthy, and might have sold a part of his new-found riches to his neighbors, if he could have persuaded them to believe in the value of his findings; but when he had gathered and carried a quantity of the garnets to the London lapidary, he was disgusted to learn that till the lapidary had expended his labor upon them, they would not pay him for the trouble of getting them to market. His belief that they were valuable in their native state did not make them so. Men must learn that there is no wealth without labor. What nature gives can be made valuable only by labor upon or around it. It must be changed by human toil, in substance, in form, or in relative position.

* Bastiat asserted, strongly and clearly, that no mere product of nature (land, of course, included) possesses value. Roscher partly contradicts this, and instances mineral veins and coal-fields which immediately, on discovery, he says, "acquire great exchangeable value." But suppose the coal-field to be discovered in an uninhabited land, remote and difficult of access. Its supposed value would diminish with the distance, till it finally disappeared. It evidently owes much, if not all, of its value to location and surroundings; just as in the case of a city lot. The supposed value is of that speculative and unreal character which is almost daily given to worthless stocks used in the gambling operations of stock exchanges.

CHAPTER X.

LABOR—STRENGTH.

109. Synoptic view.—The following tabular presentation of topics will enable the reader and student to follow more easily the discussion:

LABOR.	Factors.....	{	Strength	{	Its nature and kinds.	
					Its source and cost.	
					Its substitutes.	
		{	{	Skill	{	Its nature.
					Kinds—mental, sense, manual.	
					Cost—varieties.	
						Substitutes.
				Tools and machines.		
	Classes	{	{	Physical	{	Productive.
						Services.
		{	{	Intellectual.....	{	Discovery and invention.
					Superintendence and management.	
						Professional services.
Organization.	{	{	Undistributed or solitary.			
			Division of trades.	{	Its nature.	
					Its advantages.	
			Division of labor...	{	{	
		Its advantages.				
		Its disadvantages.				
		Its limits.				
Conditions ...	{	{	Health and bodily vigor.			
			Liberty and public esteem.			
			Intelligence.			
			Good morals.			
			Fair wages. Piece wages and time wages.			
			Self-employed labor.			
Distribution of labor to the employments.						

110. General aspects of labor.—We come now from the gratuitous to the costly factors in work.

In the great economic field of Work, labor stands central and conspicuous. To many careless eyes it seems the only real or needful presence there. Labor, all-conquering, wealth-producing, appears to them the sole source of value—the true wealth creator. Its presence is so active and imposing that it seems to fill the whole field, and labor and work are taken as interchangeable terms.

As here used, labor includes all voluntary human efforts of strength or skill, to do service, or to produce valuable changes in matter.

Economically, labor represents the difficulty in the way of the attainment of man's wishes. He sees a ripe fruit upon a high tree; it will cost a painful effort to obtain it. He weighs the pain of the effort against the pleasure to be derived from the fruit. He is offered a gold watch for one hundred dollars; it will cost the wages of a month or two of labor to earn the price. He measures the pain of this toil against the gratification to be gotten from the watch. He has reared a good horse for which one offers him two hundred dollars; he measures the toil and care which his horse has already cost him against the labor it would require to get the money some other way. This is a simple, elementary view. It tells a part of the truth, but not all. There are other aspects of the subject.

Labor is a productive effort. It is the application of energy to effect some change of place, form, or substance, which will not take place without such labor. Thus it is creative, giving existence to forms and qualities—utilities—which would else remain non-existent.

The power to labor is the power to produce objects of desire, and therefore of value. He who labors is entitled to the fruits of his labor. They are his to enjoy or to sell. If he chooses to sell his laboring power to another, then the price of the labor is his, but the products belong to him who purchased the labor.

111. Labor an economic battle-field.—Labor furnishes one of the great battle-fields of Political Economy. Its questions are often distorted by animosities, or clouded by party spirit. Communism and socialism oftenest wage their warfare in the name and behalf of labor; and economists are summoned to use their sharpest insight to determine the exact rights of labor, and the conditions of its greatest efficiency and well-being. The reason of all this lies in the pregnant fact that laborers constitute the great mass of human society; and they stand doubly related to others, as laborers confronted with capitalists, and as the many poor contrasted with the few rich.

These questions of the rights and well-being of laborers belong to social economy rather than to the science of wealth, and to that branch of our work we relegate them. In this chapter, labor will be considered in its purely economic aspects, as an agent in the production of values. It is not, however, forgotten that the laborer's education, personal comfort, and self-respect add to his working power and efficiency.

112. The three factors of labor.—Every act of labor performed by man involves three factors:

1. The strength or force by which the motion is made;
2. The skill or intelligence by which this motion is directed;
3. The tool, implement, or machine by the aid of which the force is applied. In some cases the hand itself is the only tool employed.

The strength and skill reside in the laborer. The tools employed may be regarded as supplements to his hands and fingers, which are his natural tools of labor. Tools and machines are also to be considered as capital; but here they are studied as means of accomplishing labor.

113. Economic rank of the factors.—These three factors are of different origin and costliness, and the values produced by labor will vary as one or another of them enters chiefly into the labor required. Products of labor requiring chiefly strength

will be cheaper than those of labor requiring skill as the principal factor. The consideration of the relative amount and kind of strength and skill required enters into all true estimates of values produced. The labor of children is low in price because of slight strength and skill. The laborer who can work with fine tools is worth more than one who uses only coarse and common tools. He whose tools are most costly and efficient is preferred to others. Some tools are simply aids to strength, as the lever, the wedge, and the pulley. Others are aids to skill, as are the cutting tools in general.

114. The strength factor.—Strength is first in necessity, but lowest in rank, of the three factors of labor. It is animal rather than human. Man has it in common with the brutes. It is the cheapest because most nearly a gift of nature. It is true it costs years of growth, care, and feeding, but these are looked upon as the natural incidents of life, as a part of the natural expenditures of parents, and not as economic facts. In computing the strength and laboring power of a whole people, the cost of growth and nurture must be taken into account. If we accept, with Dr. Edward Jarvis, the period from twenty to seventy as “the period of maturity and efficiency” in human life, and call these fifty years—twenty to seventy—the sustaining period, and the periods below and above these ages the dependent periods, then, as he says, “the effective power of a nation is in the number of its people in the sustaining period, and in the proportion these bear to the dependent classes.”

The following statistics, taken from a table given by Dr. Jarvis, in the “Massachusetts Health Report,” 1874, will show the efficient strength of several peoples, as determined by the per centage of their sustaining and dependent classes.

By sustaining classes are meant those who, for the time, are of the proper age, soundness, and strength to transact the business and produce the support of the population. All others belong to the supported or dependent classes.

The figures in the first four columns show percentages of the entire population.

NATION.	SUSTAINING	DEPENDENT.		TOTALS.	DEPENDENT FOR EACH 1,000 SUSTAINING.
	20 TO 70.	UNDER 20.	OVER 70.		
France,	60.32	36.09	3.64	39.68	657
Switzerland,	56.20	41.22	2.58	43.80	779
Sweden,	54.51	42.67	2.82	45.49	834
Prussia,	52.62	45.34	2.03	47.37	880
England,	52.21	45.04	2.74	47.78	915
Scotland.	51.30	45.60	2.95	48.55	946
Ireland,	46.50	52.03	1.48	53.51	1,201
United States, white,	49.04	49.18	1.80	50.98	1,039
United States, colored	44.80	53.60	1.50	55.10	1,229
Massachusetts,	56.80	40.30	2.80	43.10	759
Georgia,	44.40	53.90	1.50	55.40	1,248

The sustaining class, in France, is ten and one third per cent more than one half of the population. In England it is two and two thirds per cent. In Ireland it is three and one half per cent less than one-half of the population. Among the white people of the United States, the sustaining part of the population lacks nearly one per cent of being one-half. Among the colored people it is nearly five per cent less than a half.

The sustaining classes represent, loosely, the laboring power of the nation. It is to be increased in practice, by the laboring power of those under twenty years of age, and diminished by the idlers between twenty and seventy. It must also be modified by the average strength of each nation and the period of effectiveness in each. The average period of efficiency falls much short of the fifty years—between twenty and seventy. Dr. Jarvis gives the average duration of effectiveness of several countries as follows ("Massachusetts Health Report," 1874, page 342):

WORKING YEARS.

Norway, - - - -	39.61 years.
Sweden, - - - -	38.10 years.
United States, males,	37.46 years.
Hanover, - - - -	35.81 years.
England, - - - -	35.35 years.
France, - - - -	32.84 years.
Ireland, - - - -	28.88 years.

115. Cost of human strength.—The cost of rearing a child to manhood must, evidently, come into the estimated cost of the laboring strength of any nation. “The cost, at contract prices, of raising an orphan child to the age of eleven years, in England, is computed, by Mr. Chadwick, at 130 pounds sterling (\$632.65).” Dr. Jarvis computes the cost of rearing a child of the laboring classes, in this country, at fifty dollars a year. The child, at eleven, would be worth five hundred and fifty dollars. At maturity (twenty years) it would be worth, or would have cost, one thousand dollars.

But, “in estimating the cost of rearing children to manhood, it is necessary to include the number of years that have been lived by those that fell by the way,” says Dr. Jarvis; and he gives the following statistics of the loss in raising children in the different countries named:

NUMBER OF YEARS LIVED BY THOSE UNDER TWENTY FOR EVERY ONE THOUSAND THAT REACHED MATURITY.

COUNTRY.	YEARS LIVED UNDER TWENTY.	PER CENT OF LOSS.
Norway,	2,142	7.10
Sweden,	2,182	9.10
England,	2,192	9.60
America.	2,233	11.16
United States,	2,251	12.55
France,	2,327	16.35
Ireland,	2,514	25.70

Counting in these lost years as costing fifty dollars each, it raises the average cost of raising a child to maturity, in the United States, to \$1,112.55. This does but follow the commercial custom of charging the cost of all goods, lost or spoiled by the risks of manufacture or transportation, to those which come through safe.

116. Variations of labor power.—The average laboring power of the men of different nations also differs. Dr. Roscher states that “the experiments made with the dynamometer, in 1800 *ff*, show that the average *force manuelle* of an inhabitant of Van Dieman’s Land is to that of an inhabitant of New Holland, of Timor, of a French marine, and of an English colonist in Australia, in the ratio of fifty, fifty-one, fifty-eight, sixty-nine, seventy-one kilogrammes.” “It was found, more recently, in the American army, that the average lifting power of white soldiers was 314 to 343 pounds; of white marines, 307; students, 308; negroes, 323; mulattoes, 348; and Indians, 419.” “According to English manufacturers, an English laborer accomplishes almost as much again as a French one, and the latter, in turn, more than an Irishman.” J. G. Hoffmann claims that “a Berlin wood-sawyer accomplishes as much in ten days as a west Prussian from Labiau in twenty-seven days.” “English farmers on the Hellespont prefer to pay Greek laborers £10 per year, ‘besides their keep,’ rather than £3 to Turkish laborers.”—Lord Carlisle.

Gen. F. A. Walker, in his full and valuable work on the wages question, gives a long array of facts on the relative laboring power of different nationalities. I condense a few of his statements: “Forty years ago it required fully twice as many hands to perform most kinds of factory work in France and Switzerland as in England. . . . Mr. Briavoinne gave one hundred and sixteen pieces of cloth printed, for each workman, per annum. In Belgium the production of certain establishments, however, was estimated as high as three hundred pieces. At the same time, workmen of Ainsworth & Co., in England,

were turning out one thousand pieces per head. . . . On the Grand Trunk Railway of Canada, the French-Canadian laborers received three shillings and six pence a day, while the Englishmen received from five shillings to six shillings a day; but it was found the Englishmen did the greatest amount of work for the money. . . . In the quarry at Bonnières, Frenchmen, Irishmen, and Englishmen were employed side by side. The Frenchmen received three, the Irishmen four, and the Englishmen six francs a day each; and the Englishmen were found to be the most profitable workmen."

117. The loss by sickness.—The loss of time by sickness, by bad weather, and by proper holidays, or by the calls of family and society, must also be subtracted from the possible working time, and the expenses attending this loss must be charged to the cost of the actual time of labor; for it is evident that the sustenance of the body, during such leisure, must be earned in the working days. It was estimated that, in 1870, the sickness among the people of the working ages in Massachusetts amounted to 24,553 years and eight months. English calculations affirm that "for every death there are two constantly sick—that is 730 days sickness for every death." All this is to be deducted from the available strength for labor; and, indeed, from the exercise of the productive skill of a country as well.

118. The cost of feeding.—Human strength must also be constantly renewed by feeding. Daily bread is the condition of daily work. Man's body is a living machine which wastes by the mere act of living. A man must eat (1) to keep the machine in full repair, and (2) to furnish it with working power.

Modern science tells us that heat is working force. The body is a furnace, and the food we take is the fuel. A part of the force generated by the digestion of the food goes to carry on the vital operations of the body, and the remainder is available for voluntary muscular effort.

"It may be reckoned," says Dr. T. K. Chambers, in the

“*Encyclopedia Britannica*,” in the article on dietetics, “that the daily expenditure of force in working the machinery of the body—in raising the diaphragm about fifteen times, and contracting the heart about sixty times, a minute; in continuously rolling the wave of the intestinal canal, and in various other involuntary movements, without any thing to be fairly called work—it may be reckoned that the expenditure of force in doing this is equal to that which would raise a man of ten stone (one hundred and forty pounds) ten thousand feet.” This is the merely involuntary work of an idle man—the work done by the body for itself. A definite amount of food is required to do this work, and when additional work is undertaken an exact equivalent of food must be supplied. A working man will starve if allowed only so much food as will keep him while in idleness. Dr. Lyon Playfair calculated that the food of a man, for “bare existence,” is two and one-fourth ounces of nitrogenous food, one ounce of fat, twelve ounces of starch, and one-fourth of an ounce of mineral matters per day. For “moderate exercise,” or “light labor,” one-half more of food is requisite; and for “hard work” the food must be doubled at least.

The strength resulting from the food taken must depend, in part, upon its healthful digestion, and partly upon the amount required to keep up the animal heat of the body. Hence, unsanitary dwellings and insufficient clothing detract largely from the utility of the food, and from its recruitment of the working power. The half-clad man must use up much of the power of his food in keeping the body warm; while the dwellers in small, dark, damp rooms, without sunshine or fresh air, will get but half of the good out of their food, and will loose, in unnecessary sickness, days and weeks of time. Nothing could be more uneconomical than the miserable hovels, and especially the dark, crowded tenement houses in which the laboring classes are often sheltered, and one may almost say, slaughtered. The interests of public and private wealth alike demand sanitary reform.

119. The substitutes for human strength.—Human strength is cheapened as a factor in labor by the fact that it has cheaper substitutes which, in many places, may replace it; such as the strength of animals and the powers of nature. These are steadily driving human labor out of the employments where the strength of muscle alone was required. In half civilized lands and times, men transport goods, carry travelers, dig the soil, row or drag vessels, run as messengers, spin, weave, forge, and turn the wheels of rude machinery, furnishing with their own muscles the working force of the arts. In enlightened lands, all these things are done by the harnessed forces of nature, and man does but superintend their labor.

But while the demand for merely muscular labor has relatively diminished, the demand for men has increased—men with intelligence to construct and manage machinery; to search out materials; to superintend labor; to distribute goods; and to minister to a thousand new wants. Human strength must, therefore, forever remain a valuable factor in labor, but it must be more and more mixed with intelligence.

CHAPTER XI.

LABOR—SKILL.

120. The skill factor.—Skill, the second factor in labor, is, primarily, the product of the intelligence. It is “the knowing how,” learned by experience and reflection. But perfected skill is also the result of practice. Long continued use of mind or muscle, in performing repeatedly a certain act, or series of acts, gives the power of thinking, willing, and doing these acts with a swiftness and precision wholly impossible to the unpracticed. It is the power of habit; but it is habit of the intelligence as well as of the hand. The movements of the skilled artisan seem almost automatic in their quickness and accuracy. Recent writers have attempted to account for them by reflex action, a sort of animated automatism. But they are much more easily and rationally explained by that marvelous facility which habit gives to our movements. The rapidity with which the pianist touches the keys of his instrument would remain as marvelous on the theory of reflex action as upon the more common and more intelligible one of the power of habit.

All movements are, at first, made slowly and with uncertainty. At each repetition the mind travels a more beaten path. Among the myriad possible directions of motion, and the endless possible degrees of force, the mind learns, by experience, the right one for any given effect, and employs that without loss of time. Such is the simplest account that can be given of it. Add to this that the much-used power of muscle

or mind grows stronger by use, and we have stated all that is known of the matter.

121. Three kinds of skill.—Skill, divided according to the powers employed, gives three classes:

1. *Mental skill*, in which the mental powers alone are used. The power of rapid computation of numbers, of the skilled accountant, is purely mental. Some accountants learn to add long columns of figures, taking three and even four orders of units at once, almost as fast as the eye can travel up the column, and distinguish the figures. The quick estimates made by business men, in their respective lines of trade, also belong to this kind of skill. Though each case differs from all others, the accountant and business man learn to find, in each case, certain common elements and combinations, and so rush to the results over well-worn roads. The skill of the lawyer, the physician, the orator, and the poet, or versifier, is due largely to the same principle. It is the facility of habit—the use of movements of mind made familiar by practice. In all these cases there is, indeed, a measure, larger or less, of original action of the intellect, exercised in acts of perception, judgment, and reasoning. There are new phenomena to be observed, new truths to be cognized, and new arguments and deductions to be made. Each trade and vocation, mental and physical, has its own tools to be made familiar—its own processes to be learned; and it is the province of skill to know and use these with certainty and dispatch.

2. *Sense skill*, or skill of the senses, resides in the mind and senses. It is seen in the power of the practiced eye of the mechanic and trader, to discriminate forms, dimensions, distances, colors, and the visible indications of hidden qualities, in materials, goods, or persons. The eye of the stock-dealer judges, with close accuracy, the weight and qualities of the animal he proposes to purchase. The ear of the musician reads, with a wonderful definiteness, the pitch, power, and quality of the notes in a rapid piece of music. The blind man will often tell,

by the practiced sense of feeling, the color of a piece of cloth; and the wine-taster detects the quality and constituents of good or bad wines. The skill of the architect and the engineer lies largely in this trained use of the eye to discern directions, proportions, and effects. In all these cases the skill belongs, partly, to the finely trained sense, and partly to the mental skill to read the results.

3. *Manual, or muscular, skill*, the kind to which the name skill is most frequently applied, resides at once in the mind, the sense, and the muscle or nerve. It is revealed through muscular movement, but it presupposes the mental and sense elements. The practiced hand of the skilled workman follows his eye and mind with a movement so prompt that it is difficult to separate the act into its natural and necessary parts. Eye, mind, and hand seem to move all at once, and with a swiftness which appears to leave no time for thought. And what is most singular, the artisan often makes the fewest mistakes when he works with the greatest rapidity.

122. Special and general skill.—Skill may also be divided into special skill, which is confined to a single process, and general skill, which comprises the ability to perform all the processes of any given trade or calling. In modern manufactures, in which the labor is divided up between as many laborers as there are different processes, it is not uncommon to find a child performing some one simple operation with as ready a skill as the maturest workman, though utterly unable to do any other part of the work. Such skill is special, and is learned by dint of mere repetitions. It requires no intelligence beyond that which is necessary to guide the hand through the required set of motions. It is acquired quickly, and demands no special ability or general knowledge or education. Such laborers are not to be regarded as skilled laborers in the full sense of the term.

General skill—the skill of the full-trained workman in any trade—implies a knowledge of all the processes necessary to the

full manufacture of the finished product of his art, as the hat of the hatter, the shoes of the shoemaker, the engine of the machinist. It implies, also, a knowledge of materials, of styles, and of the uses of the article he makes, at least so far as to enable him to vary it to meet demands. Such skill requires years of practice and study, and implies some special aptitudes, at least for the higher grades of work. The better part of true skill is that intelligent mastery of all the principles and processes—of the aims and expedients—of a trade or profession, which will enable its possessor to invent new processes as well as to practice old ones. It is evident, therefore, that the higher the intelligence and the better the education, the higher will be the skill acquired, and the speedier its acquisition. In the higher technical schools, in which practice shops exist, it is found that the students already well trained in mathematics and drawing, learn the trade in much less time than ordinary apprentices. It can not be doubted that much of the abundant inventive power of American mechanics is due to the general education diffused among them by the public school system of this country, and to the newspaper and other means of public intelligence so abundant among the American people.

123. Cost of skill.—Skill is a more costly factor in labor than mere physical strength, for three principal reasons: 1. It costs more to produce it; 2. It is rarer, and has no proper substitutes, at least for its higher forms; 3. It is vastly more productive.

The production of high skill presupposes, not only that long period of growth required for the maturity of the mind as well as of the body, but also a long period of training and instruction. The highest forms of skill also presuppose rare mental endowments or genius, which still further limit its production and give additional value to its labor. This is especially true in the liberal and fine arts, in which special talents, amounting almost to genius, are usually deemed essential to success. In all the hand crafts it is found that special aptitudes are needed

for the best skill, and not a few apprentices are found unable to become good workmen.

124. Substitute for skill.—The common forms of skill have their substitutes. Machinery now performs much of the labor formerly done by manual skill. In nearly all the great staple manufactures, such as cloth, clothing, shoemaking, hat making, and wood and metal work, the machine has displaced the human hand; but only to drive skilled labor to other fields. In the higher forms of skill, which we have called mental skill and sense skill, no machinery can serve as substitutes. The master and manager can never be dispensed with. Their work grows perpetually higher and more difficult.

125. Comparative value of strength and skill.—Strength and skill enter into different forms of labor in largely different proportions, and must clearly lend something of their own varying costliness, both to the prices of the labor and to the value of the products. Labor requiring but little except mere strength of muscle will be cheap in price and cheap in product; while labor requiring high skill will command high wages, and its products will be costly.

In the larger fields of work, already mentioned, it will be found that those which collect raw materials from nature, employ much strength and but little skill, and that their profits are small and their products cheap in proportion to bulk.

Circumstances of extraordinary demand and limited supply may give high prices temporarily to strength and to its products; but in general they must follow the law.

Another fact of importance, in the relations of strength and skill, is the power of skill to aid strength, and, in some degree, to displace it. The skilled laborer, by a more adroit use of his strength, will often accomplish labor impossible to a laborer of greater strength but of less skill. Skill takes advantage of all favoring circumstances; finds the easiest ways to move a mass; makes one end of a load balance the other; and so, by ingenious devices, makes its strength count double.

“A skilled person goes straight to the mark, while an unskilled one wastes time in finding out what the mark is, and what is the way to it,” says Prof. Rogers.

126. Tools, the third factor.—Tools are the implements with which strength and skill do their work. They are artificial hands, eyes, feet, and power. They help man to do more easily and better what in some cases he could do without tools; but what in many cases he could not accomplish without their aid. Tools have not usually been considered as a factor of labor, since they are always a form of capital; but it is evident that little labor is done without tools, and in any proper discussion of labor they can not be left out. “Man is a tool-making animal,” said Franklin; and it is hard to conceive him as laboring without these aids.

The use of tools is as old as labor itself. The first man that used a stick to strike his prey or defend his life, or a stone to crack a nut, used a tool, and used it for the same purpose for which modern tools are used—to lengthen his arm, and to exert his strength at a distance, and in a manner or with a force not easy or natural. The first rolling stone or round stick employed to move a load; the first string or pry used to lift a weight; the first sharp flint stone taken to cut or split a piece of wood, or to dig a hole in the ground,—had in them the germs of all the tools and machines of modern times.

127. Machines.—Tools have been defined as implements in which the power is furnished by the hand using them; machines as those in which the power comes from some other source. The distinction is not very important. Tools are simple machines. Machines are only more complex tools. A loom is a machine, whether driven by the hand of the weaver, or by the power of steam.

Machines may be usefully divided into hand-machines, or such as are driven by the strength of the laborer using them; and power-machines, or such as are driven by some of the inanimate powers of nature. Economically, they differ more in

their efficiency than in their mechanical principles. The hand machine is, generally, more simple and less efficient. The weaver with a hand-loom, having to supply power, must confine himself to one machine. Six power-looms are sometimes managed by a single operator.

128. How tools work.—Tools aid labor by aiding either strength, or skill, or both. The lever, the pulley, the wheel and axle, and the wedge, add to man's strength, or, rather, enable him to unite many efforts in a single result. The cutting instruments aid both strength and skill. With the latter he cuts down a tree, and shapes from its trunk his canoe, or furniture for his cabin. With the former he moves the logs to the chosen site, lifts them to their places, and builds his house.

“Power machines” are instruments of both strength and skill. They have added enormously to man's power over nature and its masses. The drainage of Haarlem Lake, in Holland, which gave back to human habitation seventy square miles of dry land at the lake's bottom, was effected by enormous steam-engines, one of which worked ten pumps and lifted, at each stroke, one hundred and twelve tons of water to a height of ten feet. At the celebrated iron-works of Creusot, in France, there is a steam-hammer weighing eighty tons, and on its huge anvil a mass of iron of one hundred tons can be handled easily by means of four powerful cranes. The works of the fabled Titans scarcely exceeded this. The same company cast, in April, 1878, a steel ingot weighing one hundred and twenty tons. They exhibited, at the Paris Exposition of 1878, a steam-engine of 2,640 horse-power.

At the other extreme, the watch-making machinery produces screws so small and fine as to require a microscope for their use, and all the minute and polished wheels of the smallest watches are made with such unvarying precision that those of one watch may be put in any other of the same class.

129. How machinery cheapens products.—Tools and machines, by reason of their great effectiveness, are cheaper

agents of production than the human strength and skill which they so largely supplement and displace. Hence, the goods produced by machinery are vastly cheaper than the same classes of goods formerly produced by hand-labor.

The cotton manufacture affords a conspicuous example. Up to the year 1769 cotton was spun by hand. The following statement of the cost of cotton-spinning and values of cotton yarn are collected from the article "Cotton," in the "Encyclopedia Britannica," and arranged in tabular forms for ease in comparison. The higher numbers indicate the finer yarns.

COST OF SPINNING COTTON YARN AND PRICE OF SUCH YARN PER POUND.

DATE.	YARN.	SPINNING.	DATE.	YARN.	PRICE.
1775	No. 60	25s.	1786	No. 90	31s.
1775	No. 80	42s.	1786	No. 100	38s.
1786	No. 90	7s.	1791	No. 100	29s. 9d.
1786	No. 100	10s.	1791	No. 100	29s. 9d.
1790	No. 100	4s.	1793	No. 100	15s. 9d.
1792	No. 100	3s. 1d.	1799	No. 100	10s. 11d.
1793	No. 100	2s. 6d.	1805	No. 100	7s. 10d.
1795-1826	No. 100	8d.	1827	No. 100	3s. 2d.
1826	No. 100	6d.	1831	No. 100	2s. 11d.

Since 1831, there have been many fluctuations, but within narrow limits. In 1876, the prices for No. 100 yarn were, for warp-twist, 2s. 10d.; for medium, 2s. 6d.; and for weft, 1s. 10d. The quantity which one workman can produce has been as much increased by the improved machinery as the cost of labor has diminished. In 1779, in England and France mobs of spinners broke in pieces the spinning-jennys, as threatening their trade. The machine survived, and, in 1876, the number of persons employed in the cotton manufacture, in England, was 479,515; and the wages paid to spinners, per week, are:

Mule overlookers, thirty-five to forty shillings.
Self-actor tenders, thirty-two to forty shillings.
Throstle spinners, twelve to fourteen shillings.
Throstle overlookers, thirty to thirty-five shillings.
Self-actor piecers, fourteen to seventeen shillings.
Throstle doffers, nine to eleven shillings.

The latter classes are usually girls.

The number of spindles run by this army of spinners is 41,881,789, each one of which does as much work as the one spindle run by an old-time hand-spinner. In 1801, the annual consumption of cotton, by the manufacturers of Great Britain, was 48,400,000 pounds. In 1876, it was 1,280,300,000 pounds.

The first cotton mill furnished with the Arkwright spinning machinery was opened, in Rhode Island, in 1790, with seventy-two spindles. In 1800, the mills in the United States consumed about 150,000 pounds of cotton annually. In 1870, the number of spindles in the United States was 7,132,415; and the cotton consumed was 398,302,257 pounds.

The machinery for weaving cotton came much later than that for spinning. Cartwright's first power-loom was made in 1784, but so slow was its progress that, in 1817, most of the cotton-cloth made in England was still woven in hand-loom. In 1813, all the cotton yarn spun in America was still manufactured into cloth by hand-loom. As late as 1825 the retail price of printed calico, for dresses, was fifty cents a yard. To-day, 1883, calicoes, of about the same grade, are retailed freely for five cents a yard. Then the week's wages of a servant girl would buy one yard of calico; to-day the week's wages will buy six dresses of ten yards each.

The history of many other manufactures, though not so wonderful as that of this world-wide, world-clothing cotton industry, exhibit nearly the same phases in the introduction of machinery, and the consequent increase of production and fall of prices.

130. The economic revolution.—The most remarkable industrial and economic revolution the world has ever seen, has been effected by the improvement and invention of machinery within the last hundred years. Most of it has occurred within the last fifty years. It is the displacement of the handicrafts by machine work. One of the trades after another has been invaded by the all-conquering machine. The spinners and weavers yielded to the spinning-jenny and the power-loom. The shoemakers and tailors are yielding to the sewing, cutting, and pegging machines. Machines are taking from the hatter his old employments; and the smiths and wagon-makers are supplied by machine work, with all the separate parts of their various structures, ready to be put together, with but little hand-labor. Horse-shoes, nails, bolts, screws, and all forms of iron work are prepared by machinery for the blacksmith; and the wagon-maker buys, from as many different manufacturers, all the several parts of the wagons and carriages he wishes to produce. The carpenter buys machine-made doors, sash, cornice, brackets, moldings, and, if he wishes, the entire frame and prepared materials for his building.

One by one the old handicrafts are disappearing, or are reduced to the putting together, or repairing, of the products of the machines; the watch-makers have yielded to the watch factories; the printer has lost his place at the press, and only waits till the type-setting and distributing machines shall also push him from the case, and tell him to "go up higher"—to easier work and higher employment and better wages—for such has been the effect of the revolution thus far in the long run.

The little shops which lined the streets and dotted the land by the roadsides have nearly disappeared, or been turned into places of sale and repair. The old shoe-shop, hatter's-shop, and tailor's-shop are replaced by the great shoe, hat, and clothing stores. The old "journeymen" craftsmen have gone, and in their places have come clerks and salesmen for the stores, and overseers and operatives for the factories.

131. A new Political Economy required.—The large introduction of machinery into the fields of human industry has, in many respects, changed the problems of Political and Social Economy. These problems are now not only larger and grander than those formerly presented for the study of economists, but they vary in so many respects that they would of themselves call for a reconstruction of the science. The aggregations of wealth have become so immense; the accumulations of capital in the hands of single men and of great corporations are so enormous; the whole machinery of production has so changed its character, as well as its productive power; and the facilities of transport and communication have been so marvelously enlarged, that economic science confronts, to-day, entirely new conditions.

132. Results of the revolution.—This chapter is concerned only with the economic effects of this industrial revolution. Its influence on the laborers and on society belongs to Social Economy.

The economic results may be summed up as follows:

1. It has changed the character of labor; lessening the demand for the old forms of skilled labor, and lightening the tax on strong muscles.
2. It has lessened the cost of production, and has thus greatly lessened the market values of goods.
3. It has vastly increased the production of goods, and has diffused their use among greater numbers of people.
4. It has compelled the seeking of more distant markets for the surplus of products, and has thus set in motion a wider commerce.
5. It has multiplied largely the accumulated wealth of the world, and has thus provided more and cheaper capital.
6. It has called into being new forms of industry, both intellectual and physical, and has thus furnished labor new employments, most of them better paid, and of higher character than the old.

7. There is another result which comes sometimes from this enormous production. It drives manufacturers into strenuous competition for the markets, and crowds down prices and wages to a ruinous extent. The evil has its own cure in the failure of the manufacturers themselves, or in the forced changes of production. The too eager manufacturer, after having reduced to the utmost the cost of his goods, and reduced, for this purpose, the wages of his operatives, finds, not unfrequently, that he has ruined his markets; and, when a temporary glut or financial stringency depresses still further the market prices, failures follow.

Other results may follow when the revolution is complete. It is certain that great social changes are involved, which must be discussed elsewhere, if at all.

This closes the consideration of the three factors of labor. Beginning with rude strength, it ripened into skill, and its tools grew into machines, by which human forces mounted to their great mastery over matter and force.

CHAPTER XII.

INTELLECTUAL LABOR.

133. Mind work.—The mind guides the hand in all human labor. All such labor has, therefore, its intellectual side or element. As has been shown, this intellectual element is the very source and foundation of skill. And every advancement in the quality and condition of physical labor is marked by a larger and higher intelligence.

But there are forms of labor in which the intellect is the sole force employed, except as the senses may be summoned to aid in the investigations, and the hand to make record of the result.

The labors of the intellect do not directly effect physical changes or create material values; but these labors are, nevertheless, the most important known to the business world, and can not, therefore, be left out of any complete survey of economic science. Intelligence not only doubles production, but doubles also the values of the things produced. The ignorant and degraded have as little power to appreciate and enjoy goods of great fineness and beauty as they have to produce them.

134. Ideas give values to goods.—Goods are valued in proportion to the number and dignity of the ideas wrought into them. Those which simply feed and warm the body, however necessary they are for life, are held in slight esteem. Those which suggest ideas of personal beauty and dignity, and can help to attract admiration or awaken esteem, command a

higher price. Those in which high genius has embodied its grand conceptions, and in which fine art has wrought its forms of beauty—which come to a man as a vision of supernal glory, and feed him with thoughts of the ineffable and the perfect—these goods of the soul are of prices which astonish the ignorant and the uncultured. But the goods into which affection has poured its labor, and with which love has woven its very life, are counted beyond all price.

The real life of man is sentient and intelligent. Out of this life spring all motives of voluntary action, all feelings of want, all desires of happiness, all struggles to obtain good and to avoid pain, all work and business of whatever kind. All the laws and forces of economic science, exist for and center in this real, this intellectual, life of mankind. The vast procession of the industries, with all their triumphs of art and treasures of wealth, moves as the body-guard and supply-train of that kingly thing, the human mind, which orders the march and rides up-borne, central, and high, amidst the mighty movement.

135. Intellectual labor productive.—To the intelligent economist who discerns clearly the real significance of human industries, thought-guided and spirit-serving as they all are in the last result, there is no difficulty in admitting intellectual labor to its proper place and rank in the world of productive work. The working power of the intellect is the finest skill, and its products are the finest forms of value. This skill is the rarest and costliest, and these values are the highest and best.

Some of the earlier economists refused to call any labor productive which did not result immediately in a material product. Even Prof. Roscher says: "Strictly speaking, only those employments should be called productive which increase the world's resources." This would shut out from productive labor all but the final processes by which the material products are brought forth or shaped. All the work done in planning, arranging for, supervising, and managing the labor, counts for nothing. All the discoveries, inventing, training, and educa-

tion which has made the production possible counts as nothing; the few physical movements of the laborer's hand, according to this theory, are alone productive. How evident, on the contrary, is it that each product is the result of all the causative acts, mental or physical, which were in the chain of causation? A watch is the product of all the thinking and all the working which conspired to produce it. If it be said that what is intended by productive is productive of material goods, then we have it affirmed that only labor producing material goods is to be counted as productive of material goods—a truism, but wholly insignificant. The truth is, that the distinction between productive and non-productive labor is foolishly taken and wholly unimportant. It is one of the juggles of communism to persuade physical laborers that they alone create the world's wealth.

136. The two fields of mind work.—We conceive the intellect as working in the world of matter, and in the world of mind and ideas.

In the world of matter, it investigates and invents. These two processes exhaust its activities. The one is the labor of observation and discovery; the other is the labor of creation and construction.

If the field of its labor is nature itself, or matter in its natural aspects, the investigator discovers science—the facts and laws of nature. The inventive mind, in this field, creates theories, constructs systems, and invents new combinations of matter.

If the field is that of man's work in matter—the field of the material arts—the investigator discovers the nature of known processes and the causes of observed changes. The inventor devises new processes, and invents the machinery for effecting the changes. The investigator discovers a law or fact; the inventor creates an art. Often the investigator and inventor are one. The same mind works in both fields.

In the field of business and trade, the investigator seeks to discover the wider facts and forces of the social and economic

world—the drifts of production, the laws of markets, and the economic changes among peoples. The inventor plans and creates great business enterprises, combines large masses of capital, and organizes labor. The great business manager most frequently unites these two functions, and by virtue of these leads as a captain of industry.

137. The three intellectual industries.—The most common forms of intellectual labor employed in the industrial world, as now organized, are of these three chief classes:

1. Clerks and accountants.
2. Managers and superintendents.
3. Discoverers, inventors, designers, and experts.

The labor of the first class needs no discussion. The laborers of this class conduct the correspondence, make the records, and keep the accounts—matters as necessary to the regular and successful on-going of the whole work as the thoughtfulness which plans the enterprise and guides each hammer stroke in the labor. It contributes directly to the production, and is to be credited with its share of the values produced.

Clerks and accountants may be counted as aids to the brain power of a business. They are the eyes, voice, and hearing, and through their aid materials are collected from distant points, laborers are summoned, and goods are sold in the far away markets of the world. Operations involving millions of treasure, and the coöperation of thousands of people, are, by their aid, carried to success.

138. Managers and superintendents.—The labor of management and superintendence, when performed by a paid agent, follows the same rule as that of clerks and accountants, though it is of higher character, and involves a larger skill and wider responsibility. It is the work, on a greatly magnified scale, which every solitary worker is obliged to do for himself if he would work successfully. It includes the choice of work to be done, and of time, means, and methods of doing it, together with providing the necessary materials and tools. The

manager is the brain power of the enterprise. He invents or plans it, and directs it to its completion.

The manager is also, in part at least, a superintendent; but, in great enterprises, involving a wide field of practical operations, and employing many laborers, the manager has other superintendents as his aids, charged with the supervision of groups of labor, or fields of operation. These aids take the names of foremen, overseers, or superintendents, in different forms of business.

In great business corporations, like railway and banking corporations, as also in the great stock companies of manufacture, the manager is a salaried officer or agent, and conducts the business for his employers. But in most cases the manager is also proprietor. The business is his own, and he plans the work, provides the capital, buys the material, pays all wages, assumes all risks, and takes, as his own, all the profits, after meeting the expenses attending the business.

In the smaller business enterprises, conducted by a single person, acting as both capitalist and laborer, the business of management is lost sight of, it is so inconsiderable in amount. The small shop-keeper plans his work from day to day, buys his materials as he needs them, hires such help as he requires, and markets his products when finished, without taking account of the brain work he has done through it all. It is only when the enterprise swells to wide proportions, and demands days and nights of careful planning and vigorous thought, that the business of management stands out from the other labor as a distinct and difficult work.

J. B. Say, in his "Political Economy," describes him who is here called a manager as the "master-agent or adventurer," "*l'entrepreneur*." "This kind of labor," he says, "requires a combination of moral qualities that are not often found together—judgment, perseverance, and a knowledge of the world, as well as of business. He is called upon to estimate, with tolerable accuracy, the importance of the specific product, the

probable amount of the demand, and the means of its production; at one time he must employ a great number of hands; at another, buy or order the raw material, collect laborers, find consumers, and give, at all times, a rigid attention to order and economy; in a word, he must possess the art of superintendence and administration." If such were the qualities required in the times of Say, how much more in these days, when business enterprises have taken such immense enlargement! It is not uncommon for one enterprise now to employ several thousand men. Schneider & Co., according to the report of the American Commissioners to the Paris Exposition of 1878, employ, in their steel and iron-works at Creusot, 15,000 persons. The celebrated iron and steel-works of Krupp, at Essen, Germany, according to the same reports, give employment to 8,500 laborers, besides 5,300 employed in their iron-mines.

M. Dunoyer, and other French economists, have described, with much force, the rare talents required by *l'entrepreneur*. Gen. F. A. Walker, in his work on "Wages," has discussed, with equal fullness and ability, the function and qualifications of this employer or managing class. He strongly insists that "when men who are unfit to conduct business, force themselves into the employment of labor, it is at the expense of labor." Evidently, none should assume the high responsibilities of so difficult and important a place without first carefully training themselves for their work. No more serious tax falls upon labor, or upon the general business interests of the country, than the inevitable and disastrous failures of incompetent managers.

In the most recent forms of business, which seek to mass labor and capital to the utmost, the work of management usually requires talents of the highest order. The successful manager of great commercial and business ventures must have Napoleonic will and skill in command. He needs the intelligence, sound judgment, decision, energy, and courage which

we attribute to statesmen; and he must add to these the tireless industry and endurance of the frame of iron. These qualities are so rare that they will, necessarily, command large reward, and will easily contrive to obtain it. They create business, and, if justly employed, make for labor and capital wide and fruitful fields.

139. Work of scholars.—Scientific scholars, discoverers, and inventors have only, within the present century, come to hold a recognized place among the industrial and producing classes, and to be counted in with the economic forces of the world. Scholarship itself formerly shrunk from too intimate association with labor; and labor despised scholarship as the idling of drones, or the dreaming of impractical enthusiasts. But the arts have now become scientific in character, and seek to employ, under scientific conditions, the forces of nature and the occult properties of matter. Great competing industries dare not trust to the mere energies of skilled workmen pitted against the combined science and skill of their rivals. The work of the scientific scholar and expert has become as necessary to success as that of the manager, the capitalist, and the common laborer.

Chemists, designers, inventors, and mechanical engineers are now regularly hired by most of the larger manufacturing establishments, and even the highest class of scientific investigators are not unfrequently called into service to aid, by their knowledge, the operations of industry.

Intellectual and scientific attainments may be counted, in their relations to industry, as a higher form of skill. They lend new efficiency to the productiveness of labor by teaching it how to overcome difficulties, or by bringing to its aid new powers and properties of matter, or by devising new and more valuable forms of products. Our great manufactories are full of new machinery which science helped to invent; and the great warehouses are replete with goods which science aided to construct. The Bessamer steel, the nickel-plated wares, the scien-

tifically constructed tools, machines, and vehicles, the thousand compounds which chemistry has given to the arts, or added to the stores of drugs, disinfectants, fertilizers, dyes, preservative paints, and food adjuncts, and the great family of electric arts and products, are among the applications of science to the arts which have made modern industry rich over all its forerunners.

The technical schools of Europe and America are revolutionizing the common industries both in their processes and in their *personelle*, their superintendence and their labor.

The aid given to commerce by scientific navigators, explorers, and chart-makers, who have marked the oceans with the shortest and safest paths for ships, and have laid down on their maps the "rivers in the seas," in whose swift currents commerce may find helps for its sails and its steam; the vast improvements made in the means of transportation by land and sea, bringing into near neighborhood the distant shores, and making the markets of all continents open to the productions of each; and the work of that marvelous and most useful organization, the Signal Service Bureau, which tracks the storms on their wild way, and gives to all concerned warnings of their approach—all these are the works of scholars and inventors. They have opened the world itself as a field for manufacturing enterprise; and they are steadily changing all the economic conditions of mankind, master and man.

140. Inventions and discoveries are goods.—Inventors and designers often work on their own account, and sell their discoveries and inventions, as other goods are sold in the market. These products are immaterial in character, consisting essentially, in ideas of forms, of combinations, or of devices for the applications of forces and the production of results—ideas which remain intangible and non-producing till applied to material things.

Society and government have wisely and justly recognized property values in these ideas, and have taken care to secure ownership to the inventor in his work, as they secure owner-

ship to other laborers in the products of their labors. Most modern governments give to the inventor a patent, securing him the sole right to use or sell his invention for a term of years—long enough, it is supposed, to pay him for his labor. Holland and Switzerland have no patent laws. This right, while it is thus limited, is a portion of the world's wealth; but when the patent expires, the invention ceases to be property, and merges in the great mass of nature's gifts, or of that store of ideas and knowledge which mankind have been acquiring during the long periods of their history.

141. Education a productive labor.—Education, which in general is a personal service, is now, in some cases, properly enough counted among productive labors. Technical and trade schools, for the training of experts, overseers and operatives, are adjuncts or substitutes for apprenticeships, and as such bear almost as direct a part in production as the sharpening of tools or the construction of machines. In our own country, these schools are multiplying and steadily taking higher rank. Many of them have practice shops, and aim to give manual skill. The great technological schools of Moscow and St. Petersburg give full courses of manual instruction, in connection with a full scientific education. The National School of Watch-making, at Cluses, Savoy, and the Apprentice School of the city of Paris, aim simply to make skilled and intelligent workmen. Many of the great manufacturers of Europe connect, with their establishments, schools for the instruction of their younger workmen and the children of their operatives, in order to train up a more intelligent body of laborers for their own works. In the higher polytechnic schools, the chief aim is to teach the sciences and their useful applications in the arts. They all have economic aims, and may, therefore, be counted among the productive forces.

142. Second field of mind work.—The second grand division of intellectual labor deals only with the mind and its products. It does not aim at material results except as these

may be necessary to exhibit and convey to others the mental products or are necessary concomitants of these. The book of the author is the means of conveying the products of his study and thought.

This field of labor embraces man in his mental, moral, æsthetic, religious, social, and political aspects. As the physical industries seek to meet man's physical wants, so these intellectual industries seek to satisfy his intellectual desires and needs. The scientist and philosopher labor to gratify man's love of knowledge, and need of light; the teacher gives him mental culture and the elements of science and learning; the poet and artist address their labors chiefly to his æsthetic tastes; the statesman and publicist discover for him his various rights and relations, and the organizations by which these may be best preserved and enjoyed; the lawyer aids him to secure the benefits of the laws; the preacher ministers to his religious and moral nature; and so each intellectual laborer has some field of spiritual desire or want to which he directs his efforts.

The work of the lawyer, the physician, the teacher, the preacher, the lecturer, and the musician and play-actor, belong to the class of services, and will find their place in another chapter.

143. Intellectual labor and property.—As already noticed, this division of intellectual labor, like that which concerns itself with matter, subdivides into two classes, that of the investigator and that of the inventor, though the two are rarely kept distinct. The investigating mind seeks to discover facts, to learn the truth, and to determine the philosophy or ultimate reason and relations of facts. This class of work is to be done equally in all departments of knowledge and art; in political science, in mental and moral science, in æsthetics, in history, and in education. The investigator presents the products of his work, in a book or periodical, or from the platform. Society recognizes the value of the product, and

government secures to him ownership in his book, or its contents rather, by giving him a copyright. Men buy his book, or pay him for his lectures: they purchase his thoughts. If they do not pay him in money, they give him that higher compensation, honor and fame, more coveted by noble minds than money.

When his copyright expires, his ideas cease to be property, because they have lost the element of ownership, without which, as was shown in a former chapter, value can not exist. His discoveries pass into the common stock and belong to all mankind, as do the air we breathe and the light which gives us vision.

This intellectual property is not usually enumerated in the tax list, nor counted in the census, but it still has value. It has cost effort; it possesses high utility; and it acknowledges ownership. A copyright and all it covers may be sold, as one sells a farm. Intellectual property differs from material property simply as mind differs from matter. Its high economic force and importance will not be denied by any one who has studied carefully the influences which act upon mankind and inspire their industries. He who makes a machine helps one industry; he who discovers, or puts into clearer light, a great truth, aids all industries.

As the living man can not be dissected, and his mind separated from his body; so, in the wide range of his desires and gratifications, the intellectual can not be wholly divided from the physical. In the final and truest analysis, all efforts put forth to meet man's needs are true labor; and all products of such efforts, rightly understood, possess value, whether sold in the common markets of goods, or in that higher market in which men buy wisdom and power.

CHAPTER XIII.

SERVICES.

144. Services defined.—There is a class of gratifications which labor yields directly to human desires, without producing material values. These are called services. Thus, one who sings us a song, teaches us a truth, brushes our clothing, drives our carriage, or saves from pain or trouble, does us a service. A service, in the strictest sense of the term, is a gratification rendered directly, without the intervention of goods; but we commonly count as services, also, the labors of domestic servants who prepare and serve our food, care for our houses, clothes, and other property, though much of their labor is bestowed upon material goods. They are supposed, however, to cover that final effort by which goods are taken and put to their uses, and which most consumers make for themselves.

Services, like other labors, divide into physical and intellectual. The labors of the lawyer, the teacher, the physician, and the clergyman, are commonly called professional services, because they meet needs, but do not create values of the material sort.

As simple gratifications, services would not, ordinarily, come within the range of economic science, any more than the gratifications which men take immediately from nature, from air, and sunshine, and scenery, or from the gratuitous services of friends. But the efforts by which these gratifications are given have economic value, and may be exchanged or purchased, the

same as productive labors. The strength and skill employed must be produced, trained, and supported.

145. The power of service valuable.—The thing actually sold or exchanged in service is the use of power which renders the service. This power has utility, costs effort, and is held in strict ownership by its possessor. It thus has the three essential elements of value. Its use is sold as one sells the use of a house in renting it.

This power can not be separated from its possessor, and can not, therefore, be permanently alienated. It is sold for a limited time, and for that time its use belongs exclusively to its purchaser. If I hire a band of musicians for an evening, I buy their musical powers for that evening, as much as if I purchased, for the evening, the use of an automatic music-box. So, also, if I employ a domestic servant, or a professional man, it is, in effect, a temporary purchase of their powers of service. In slavery, the power of the slave is the permanent property of the master. In free labor, the laborer sells his own services, to which he has the right; in slavery, the slave and his services were sold by some third party, who could have no right to them.

146. Productive and service labor contrasted.—In the employment of mechanical or other productive labor, there is also a virtual purchase, for the time, of the laboring power and skill of the laborer. But the labor differs from that of service in the results. The former leaves a valuable product in the goods which it helps to produce; the latter affords an immediate satisfaction, and leaves no permanent product of value. The one produces the means of a future gratification; the other produces the gratification itself at the moment. It is evident that the means of future gratification—the goods produced by the laborer—belong to the purchaser of the labor as much as the immediate gratification does.

The difference in results may seem slight, as it is a question between a present and a future pleasure or satisfaction; but,

economically, this difference is of great importance. In each case there is a consumption of old values used up in the support of the laborers; but in the one case, the values consumed reappear immediately, with an increase, in the new values produced. Something has been added to the world's wealth, and it remains as an economic force to enter into new economic movements. In the other case, the old values disappear, and, ordinarily, nothing remains but the evanescent feeling of gratification or relief, save in the case of productive power described in the following article.

147. Productive services.—Many services may be said to be productive. All services are productive in the highest sense, which strengthen the physical energies of men, increase the intelligence, improve the character, lend courage or energy to the mind, or promote the public intelligence and civilization. The service of the teacher leaves a product of the highest personal and economic worth. No investment of accumulated wealth ever made by civilized men has been more productive than that made in the diffusion of education and intelligence. The rapid increase of the world's wealth, within the last half century, over and above that of all former ages, is traceable directly to the schools which have educated labor, and led to the wealth-giving discoveries and inventions.

The services of the teachers of morals and religion are also productive in character, and have added to the wealth of mankind far beyond their cost. They have checked the growth of extravagant and wasteful vices; saved life, health, and working power; given additional safety to property, and thus lent fresh impulse to production by increasing the motives both to toil and to save.

The services of musicians, and others who minister to the higher amusements of the people, though less commonly counted productive, are not necessarily unproductive. Recreation, wisely used, conserves energy, and may add to the motives and the power for work.

148. Lawyers and physicians.—The services of the lawyer have, usually, a more direct and immediate connection with the business interests of mankind. As a counselor he aids in effecting the legal exchange of property; helps in forming contracts, and interprets and secures the legal rights of his clients. His services in prosecuting crime, and in administering the laws, belong chiefly to the domain of social and political life. If his functions take their utility largely from the ignorance and dishonesty of men, they are none the less useful, since ignorance and dishonesty are unavoidable. The wide movement and immense machinery of the modern industries and business could not be guarded and controlled without the aid of laws equally wide in scope and power.

The physician's services are more purely personal in character, since they minister to the health of individuals; but their economic relations are direct and important. In so far as they save life and preserve working power, they save property. To abate sickness and restore health is to stay wasteful expenditure and give back productive force. If the physician is also a sanitarian, and gives his professional aid to the stamping out of epidemics and the promotion of public health, his services often acquire inestimable usefulness in saving whole populations from needless sickness and loss.

149. Services and goods compared.—The difference between service and productive labor has been shown to lie in their results. The difference between services and goods is often still less. Both yield an immediate satisfaction. The gratifications may be the same. The musician gives me music by his own effort; the music-box also gives me music. The teacher or orator serves me with his voice; in buying a book I may purchase the same instruction. In those goods which are consumed, in yielding a single satisfaction, the likeness to service is stronger. If I would have a new gratification, I must buy a new feast, or a new service.

In one sense, all goods are services, since they all have util-

ity, or power, to meet some want of man, directly or indirectly. Noticing the similarity in effects, several economists have adopted the term services in the place of goods or values. They speak of the exchange of services when they mean the exchange of goods. Bastiat and Perry employ the word service in their definitions of value. But this obscures an important economic distinction between the two. All goods may be serviceable, and hence services; but all services are not goods.

The true service must be rendered directly to the person, and the effort must be repeated with each enjoyment of the service. In goods the service is stored up, and may be preserved, transported, and enjoyed as often as one pleases, and as long as the goods last.

The power of true service lies in the person serving, and can not be alienated or transferred. Its use alone can be sold, and for the occasion only. In goods the power to serve is impersonal, and can be transferred as property. It goes to make up the volume of material wealth, whose aggregations constitute one of the three fields of economic science. The common sense of the world recognizes the difference and counts upon it.

150. Numbers of service workers.—The economic importance of services will be better understood by noting how large a part of the industry of the world is employed in this way. In the United States, in 1870, out of a population of 28,228,945 over ten years of age, 12,505,923 were engaged in regular occupations. Of these, 2,684,793 (1,618,121 males and 1,066,672 females) were employed in personal or professional services, including 2,053 actors, 43,874 clergymen, 975,734 domestic servants, 5,286 journalists, 40,736 lawyers, 62,383 physicians and surgeons, 126,822 teachers, and 1,031,666 whose field of labor was not specified in the returns. More than one fifth of the working force of the country was employed in these various services. The proportion is largest where wealth most abounds. The poor are compelled to be their own

servants, except as they are served by their children. If the services of children under ten years of age were counted in, our aggregate would be swelled still higher.

Among the service workers may be counted, also, many establishments and business companies, the whole or a portion of whose occupation is to render immediate personal gratification. Such are the theaters, the public shows of all sorts, concerts, art galleries and museums, and also steamers, railroads, and public carriages, when used for simple pleasure excursions. When these latter are employed in the transportation of goods or laborers, they add to the economic value of such goods and labor; but, in pleasure excursions, the transportation is a simple personal gratification or aid to such gratification, and consumes value but produces none, except in the indirect way before described.

151. Prices of services.—The prices paid for the different classes of services follow the laws of material values. In common household and personal service, the element strength enters largely, and that of skill less; and the skill required is usually of a low order. Such services would ordinarily, therefore, command only moderate wages were there no disturbing causes. Servants who attain higher skill, and prove themselves especially trustworthy, gain much higher wages; and expert cooks sometimes win salaries equal to the best paid to the learned professions.

Lawyers, physicians, teachers, and other intellectual laborers are supposed to require special knowledge and technical skill, and their service is accordingly held as of higher value than merely manual service. When by extraordinary study or eminent talent they rise to rare excellence in their calling, their services are valued accordingly.

The laws of demand and supply apply to services as well as to goods. Whenever, by reason of the supposed ease, popularity, or other advantages of any professional calling or class of service, it becomes overcrowded, the work of such calling or

class falls in the market, and the wages go down. So, on the other hand, if any field of service comes to be counted as disagreeably laborious or degraded, and a consequent scarcity of such service prevails, the demand raises the price as far as the actual need of such service will allow. This will explain many cases which are ordinarily counted as anomalous, especially in the employments of women whose range of work is smaller than that of men, and who are much more sensitive to the esteem in which their business is held. They crowd the professions which are open to them, or those which they deem it respectable to enter, as the teachers' calling, and, by their own crowding and competition, lower the wages to their own sex. An enlargement of the sphere of work open to and respectable for women, will tend to equalize wages between men and women.

Large amounts of service are gratuitous, being done by friends for friends; parents for children, or children for parents; but as this does not enter into the field of economic science, it need not be considered.

CHAPTER XIV.

ORGANIZATION OF LABOR.

152. The three stages of organization.—Labor has thus far been seen in its factors and in its classes. It remains to study it in its organization and in its economic conditions. It is to be kept constantly in mind that in these chapters labor is treated purely as an economic force; and that all questions of the rights and social relations of the laborer are reserved to the field of Social Science. The question here concerns the methods and amount of work.

The phrase “organization of labor” has been applied, by socialists and others, to the combination or organization of laborers, and not for the purpose of promoting their laboring power and productiveness, but for mutual aid and protection. This organization is aside from the present discussion, and will find its place in Social Economy.

In the history of the industries, labor presents itself under three broadly-marked stages of organization:

1. Solitary or undistributed, in which each laborer does all kinds of work.
2. Divided into trades and distinct employments.
3. The division of labor, or its distribution by processes.

These follow each other in a regular and historic order; but they may often be found coëxisting in the same times and in the same country.

153. First stage.—Undistributed labor.—The first form prevails chiefly in the savage and nomadic states of society, in

which each man builds his own hut, makes his own weapons, dresses the skins for his own clothing, and hunts his own food.

The only organization of labor in such a state, is the simple massing of laborers—several hunters uniting in the same hunt, or several herdsmen tending the united herds—where all are engaged in the same work, and where they seek, by union, only the advantage of numbers and of combined strength.

In this stage, the labors are necessarily simple; the skill required is small, and the products are rude in character and little in amount. The laborers rarely attempt any thing more than the supply of present physical wants. Nothing is stored for the future, except the meager food supplies for the coming winter. The notion of property is imperfectly recognized; community of land and most other goods prevails, and capital, as a productive agency, is unthought of. Each shares with others whatever he has acquired, or takes by force or stealth whatever he wants.

154. Labor of savages.—The fitful and feeble efforts of the savage can scarcely be called labor. Without skill or steadiness, these spasmodic and lazy efforts give slight hint of that magnificent and enduring force of civilized labor which feeds and enriches the great states and empires of enlightened men.

The tools of this stage are restricted to the rude hatchet and knife of flint, the spears, bows, and arrows used alike in war and the hunt, and a few other rude implements shaped from wood, stone, or bone, or from the skins or horns of the animals they kill. These are the only aids which labor seeks from the mechanic powers in the savage state.

The toil is spent chiefly in gathering nature's free gifts, and little attempt is made to increase or improve them. A thousand acres of land, in temperate climes, yields food for a single man, and famines often drive the starving inhabitants to seek provisions by invading the haunts of other tribes.

When labor advances from hunting to herding, food becomes more abundant, or at least more constant; but labor, though

more regular and productive, remains chiefly in the first or undistributed form. Each laborer performs all kinds of work required by his wants, and rests content with what he thus procures.

The pioneers in our own western wilds have sometimes been temporarily reduced to this stage of labor, and compelled to be their own carpenters, tailors, and shoe-makers—a sort of jack-of-all-trades; with the disadvantage of civilized needs, and the compensating advantage of much of the knowledge and some of the tools of civilized men.

155. Steps of progress.—By what slow steps the different trades and employments separated from each other, and from the general work, is not definitely known; nor would such knowledge specially aid economic science. It is easy to conjecture how the special aptitude of some savage genius might have led him to improve upon the common form of some weapon or implement, and caused his productions to be looked upon with eager desire by his less skillful contemporaries; and it is obvious that they would, in their desire for the possession of the improved weapon, offer him in exchange an equivalent from the fruits of their hunting. He would, perhaps, teach his son or other youths his art, and so a trade would have begun. A French engineer, who had been for seven years a prisoner among the Apaches, while still in their most savage state, told the writer that the stone arrow-heads and hatchets, still in use by them, were made by a few members of the tribe who had learned the trade. We read that the antediluvian Jabal “was the father of such as dwell in tents, and have cattle.” He was the first, perhaps, to domesticate the wild animals, and to tend them in the pastures in which he had erected the tents constructed from their hides or hair. His brother Jubal “was the father of all such as handle the harp and organ”—the first to get musical sounds from stretched strings and the hollow reeds. Their cousin, Tubal Cain, was “an instructor of every artificer in brass and iron.”

In other cases, the surroundings of the tribe would lead to the development of some form of industry; as dwellers by the sea would naturally learn fishing and boat-building and the sailor's arts. Arts once started by one tribe are easily borrowed by others and added to their own, and thus, from various sources, different employments grow up.

156. Second stage.—Division of employments.—The separation of employments may be counted the first grand step in civilization, as it was the first in true economic progress. It implies, as its necessary condition, the notion of private property and that of the exchange of goods. Without these, the maker of arrows must still continue to be also a hunter. He can only devote himself to arrow-making when his products are recognized as his property, and when he can procure in exchange for them the food he needs.

So soon as men began to devote themselves to distinct and separate employments, skill increased, and better tools were invented. Out of these came increased production, and, by degrees, a surplus of products finally appeared, wealth began to accumulate, stimulating into life heretofore unknown desires, affording leisure and materials for new manufactures, and bringing into action higher mental and physical energies before dormant and unsuspected.

The division of employments once begun, its manifest advantages, in more abundant production and in improved products, would surely maintain it. Men, finding that for half the toil they could win double the amount of goods, would never again return willingly to the old form of undistributed labors. Having started, trades would naturally continue to subdivide, as wealth increased and demands multiplied. The workers in wood, who at first went to the forests for their materials, become divided, finally, into choppers, lumbermen, sawyers, carpenters, joiners, cabinet-makers, coopers, boat-builders, chair-makers, and a score of other trades, and these again into special branches of each, till every branch devotes itself to the

production of a single class of goods. So the house-builders subdivide into the carpenters, the stone-masons, the brick-layers, the plasterers, the painters, glaziers, plumbers, decorators, and many others. The metal-workers, the clothiers and cloth-makers, the leather workers, and the food producers, followed the same law, as civilization advanced, till the distinct trades were numbered by hundreds.

157. The two stages contrasted.—This second stage in the organization of labor differs from the first in the narrower field in which each labor group worked. Under the first stage, the labor group is simply a mass of laborers of all work; under the second, the groups divide from each other by difference of employments, and the entire field of labor is divided into as many separate labor groups as there are different trades and vocations.

But, while the sphere of labor grew relatively narrower, by this subdivision of trades it grew really much larger for each group. The all-work of the savage is much less in amount and variety than the single employment of the civilized man. The tools and processes of the house carpenter outnumber all the implements and processes known to savage life; and the skill required in building a modern house is twenty times that required to perform every labor which savage needs demand. Seven years was the commonly allotted time, a few years since, for the apprentice to learn his trade; and in Europe he was usually required to spend two or three years more, as a traveling or journeyman laborer, working in the shops of other cities and provinces, and thus perfecting himself in his craft, before he could open a shop of his own and offer himself as a master workman. The spread of education, and the increase of popular intelligence, have diminished the time of apprenticeships, but the learner of a trade must still give years to his work before he can master it in all its branches and processes. Workmen of the highest skill are rare in all the trades and professions.

158. Advantages of division of employments.—The advantages gained by this organization of labor into different trades and professions were many and important:

1. It allowed men of different aptitudes to choose work suited to their talents and their strength.

2. It greatly increased the skill of labor, and thus improved its products. In the place of huts came houses; instead of the rough dress of skins came the soft, warm, and flexible fabrics of the looms; and in place of the scant meal of flesh, or of parched corn, was spread the full, rich table of civilized life.

3. It vastly multiplied and cheapened goods. Ten laborers, each working at a single trade, produce at least ten times as much as the ten could produce when all worked at all the trades.

4. It led to the invention of new trades, new tools, and new goods. This has already been sufficiently illustrated.

5. It increased the means of subsistence, and made it possible to sustain, in plenty, large populations, where feeble tribes roamed and starved before.

6. Increasing the skill, wealth, and numbers of mankind, it increased also the civilization and general well-being of peoples, raised them from the nearly brutal condition of the savage to be dwellers in cities, and to the sanctities of homes.

159. Mutual dependence or coöperation.—It may seem at first a disadvantage that the introduction of trades largely increased the dependence of men upon their fellow-men. Man was no longer equal to the supply of all his own wants. He depended upon the shoemaker for his shoes, upon the hatter for his hats, upon the various house building trades for his dwelling, and upon a host of other employments for the daily necessities of his life. But, on the other hand, it may be equally affirmed that the existence of all these trades makes it possible for him to receive the aid of so many of his fellow-men. The hatter, by his trade, becomes of importance to all who wear hats; and they all in turn are ready to give him the

benefit of their skill in exchange for his. This mutual interdependence of men has increased man's security from want, and has made society both possible and necessary.

The extent of this dependence and coöperation will be better seen, if we reflect upon the help a single trade receives daily from other trades. In order that a hatter may make a single fur hat, the carpenter must build his shop, for which the glass-maker, the lumberman, the lime-burner, the brick-maker, the lock-smith, the iron-founder, and a hundred others must furnish materials or products; the cabinet-maker, chair-maker, and others must provide furniture; and the machinists, cutlers, and other tool-makers must fabricate his implements of labor. In the distant wilderness the trapper has caught the beaver, the fur-trader has brought it to his door, and the furrier has prepared it for his use. In other lands, the sheep farmer has reared the sheep and shorn the wool, cotton planters have raised the cotton, silk producers have fed the silk-worms and gathered the cocoons, and silk weavers have woven the silk for band and linings; herdsman, butchers, tanners, and leather dressers have provided the strip of leather needed for the sweat-band; ship-builders, sailors, railroad builders, workers and managers and traders by the score, exporters and importers, have contributed to the collection of his materials, tools, and supplies from the four quarters of the globe. By the help of all these he has produced his hat. Shall we call it the dependence of the hatter upon the rest of mankind? Or, do they serve him that he, in turn, may furnish them with light, tasteful, and comfortable covering for their heads?

160. Third stage.—Division of labor.—The third and last stage in the organization of labor is that known as "the division of labor." It advances beyond the division into trades, and separates the work of each trade into its distinct processes, assigning each process to a separate worker.

This advance seems natural and easy, but it is one of the most important in the history of the industries, and its eco-

conomic consequences are not yet fully revealed. Adam Smith was the first to point out the real nature and power of this form of the organization of labor, and to enumerate its limitations and advantages; though he failed to discriminate carefully between the division of trades and the division of labor. Even Roscher does not notice this important distinction. Since his time, the subject has been more widely discussed by economists, and volumes of illustration have been written to show its importance. A simple statement will make it clear to the young reader. A wagon-maker, working at his trade, makes a wagon. From the turning of the hub till the last stroke, he does it all. But in doing this he uses a large number of tools, and performs an equally large number of operations. Suppose this number of different operations to be fifty; then, in a large wagon manufactory, employing at least fifty men, and making great numbers of wagons of the same kind, each laborer would, in a proper division of labor, perform only one of the fifty operations. One would turn hubs, another would mortise them, a third would make spokes, a fourth fellies, a fifth axles, and so on through the whole work. No one laborer would make a wagon; but each would do the fiftieth part of the work, and all together would make complete wagons. In Adam Smith's day, sixteen workmen were employed in making a pin. "In present England, the manufacture of watches is divided into one hundred and two branches, which have to be specially learned."

161. Advantages of division of labor.—The economic importance of this subject arises from the enormous productiveness which the division of labor has lent to the modern industries. The division of trades added immensely to the productive power of human labor; but the division of labor has carried this power as much beyond that of the ordinary trade-worker as his was beyond that of the savage. Adam Smith states that in a pin manufactory which he visited, ten men produced 48,000 pins a day, while each man, working alone, could not

probably, have produced more than twenty pins a day; and the ten working together, without any division of the labor, would have made only two hundred.

To explain this increase of productive power, it is necessary to notice, in detail, the advantages springing out of the division of labor. It will be observed that some of these are the same in kind as those which were found in the division of trades and employments; but the division of labor carries these advantages to a much greater height, and adds others not known to the trades.

These advantages embrace: 1. The economy of time. 2. Economy of strength. 3. Economy of skill. 4. Economy of tools. 5. Economy of materials and supplies. 6. Improvements in tools and machinery. 7. Improvements in products. 8. Multiplication, diversification, and cheapening of products. 9. The massing of labor and capital.

162. Economy of time.—The ordinary mechanic, or trade worker, as we shall call him, necessarily loses time in passing from one branch in his work to another. His work-bench is to be cleared, tools exchanged, and new materials obtained. It amounts to but little with a solitary worker, but in large operations the aggregate is sufficient to be of importance. All this time is saved by keeping each laborer employed constantly with one tool or set of tools, and one process of labor. Where sixty men are employed, the savings of five minutes a day by each, is the saving of five hours by all—a small matter in itself, but not small when the work of a great establishment is taken into account. And the saving, in fact, is usually much more than five minutes for each laborer. The trade-worker is more than ordinarily careful and diligent who does not lose twenty minutes a day with his various interruptions.

To count properly the value of time in a great manufacturing enterprise, it must be remembered that all the expense for capital employed, for machinery and power, for rent, warming, care and repair of buildings, for superintendence, and for all

the agencies of purchase and sale, must go on, whether the working time is ten hours or fifteen minutes less. The manufacturers of France gain an important advantage by running their mills fourteen hours a day in place of the ten hours, usual in the factories of this country.

163. Economy of strength.—The trade-worker must have strength equal to the heaviest part of his task. For the lighter parts his strength is often much more than sufficient; they are child's play to him. In the division of labor, each process is assigned to a different laborer, and the lighter parts are given to women and children; and as the children are equal, in this light work, to strong men, they may be counted as men in the labor force. Thus, a man and four boys are not unfrequently equal to five men, while their cost is not more than that of three men. In the great cotton and woolen mills, a large part of the work is done by young women and children. In the cotton mills of England, in 1874, out of 440,336 persons employed, 65,979 (33,342 boys, 32,637 girls) were under thirteen years of age; 37,016 males between thirteen and eighteen, and 227,092 females over thirteen were employed. The aggregate labor force of the world is increased by so much as is saved of man's strength, and by all that is added of the otherwise unused power of boys and girls. Only economic effects are here taken into account; the moral and social questions of the employment of women and children, in workshops and mills, belong to another science.

164. Economy of skill.—This is found both in the easier production of the skill demanded and in its better employment. In a trade, the workman must learn all the processes and acquire the use of all the tools. In the division of labor, each laborer learns but one operation and the use of the tools necessary to perform it. This he not only acquires in a short time, but he attains in it a skill and rapidity of movement impossible to one who must do many different things. The hands of expert workers, even of children, move with a swiftness and pre-

cision utterly incredible to one who has not seen them at their work. The rapid play of the fingers of a skillful pianist may be taken as a familiar instance of the power that may be gained by practice. In this, as in the manual movements of expert workers, the eye can not follow the motions. Roscher says that a clever filer makes two hundred strokes in a minute. Skillful folders and gatherers, in a book bindery, work with a swiftness which almost defies observation. Adam Smith attributes to this expertness gained by the division of labor, the greater part of its large productive effects.

But there is a second economy of skill made possible by the division of labor. In every manufacture there are some processes requiring the highest skill and intelligence; but there are others in which skill of the lowest order is sufficient. This form of the organization of labor allows the assignment of the former to the most experienced and skillful workmen, and the latter to mere novices, who could not otherwise be employed, and whose services are of little cost. It is said that the manufacture of English needles demands, on the part of workmen, degrees of skill so different that their pay varies from six pence to twenty shillings per day.

165. Economy of tools.—Here again, as in all the former cases, the comparison is made not with the labor of the savage, but with that of the trade worker. It is evident that a single wagon-maker, working alone, must have all the tools and machines necessary to make a wagon. If now, by the division of labor, fifty men, as before supposed, are employed in making the wagon, the same tools and machines would serve them all, except such common tools as may be required in all the processes.

This economy of tools increases in importance as the machines employed become large and expensive. It is related that the pointed screw manufacture was once saved from ruin by employing a second set of men to run the costly machinery at night, and thus make it do double work. The cost of screws

was so much reduced by this saving in machinery that they outrivaled in cheapness the old-fashioned screws, and gained a lodgment in the market.

With the economy in tools may be counted in, also, economy in shop-room and other necessary adjuncts of any manufacture. The shop-room required for fifty wagon-makers and their machinery is not necessarily more than five times as large and costly as that required by one man doing all. The stoves, water-pipes and cisterns, carts, yards, store-rooms, and counting-room would require little larger increase of capacity.

If power machines, such as the steam-engine or water-wheel, are employed to run the working machinery, the economy becomes still greater, as it costs nearly as much to run a small engine as one of ten times its power; and the expense of running it for an hour or two is not very much less than that of keeping it continually at work.

166. Economy of materials and supplies.—The provision of materials and various supplies is one of the foremost cares, and, usually, one of the largest sources of expense, to the manufacturer. These must frequently be imported from distant markets, and laid in in such quantities as the extent of the business demands. Our single wagon-maker might need all the variety of materials required by his neighbor who employs fifty workmen; but his expense in obtaining his stock would be vastly greater in proportion to the amount purchased. He would buy at retail, while the other would get his at wholesale. But the economy would only begin here. His waste in cutting up would be twice as large in proportion to the amount of material used, as that of the other. The very fragments from a large establishment, by their bulk, pay for saving and applying to some use; those from the shop of a single workman will not compensate for the care. It is this economy of materials that helps to render ready-made clothing and shoes cheaper than the custom-made goods of the same quality.

167. Improvements in tools and machinery.—In this

we approach the very heart of that marvelous producing energy which the division of labor has lent to the modern industries. The separation of a complex work into its simple elementary processes, is the primary condition of the invention of a machine for doing the work. Given any single motion, and the machinist easily devises the machine to produce it. The problem before Arkwright, in his invention of the spinning-jenny, was simply to draw out slowly a roll of cotton while the spindle was twisting it. He thought of two pairs of small rollers, through which the roll of cotton might pass, and by making the last pair roll a little faster than the first, his problem was met, and the cotton manufacture was revolutionized for all time. Nearly all the great inventions have been made possible by this division of labor into its simple processes. The first result has been to increase the skill of the human hand in performing them; and the second step has been to make a hand of steel to do the work of the skilled hand of labor.

In Adam Smith's day the chief effect of the division was that which he has so well described—the wonderful expertness of laborers. Were he to revisit, to-day, his pin manufactory, he would look in vain for his ten expert workmen, making, by their division of labor, 48,000 pins a day. In their place he would find two machines, to one of which is fed wire which it turns out completed pins; and the other, fed with pins and paper, produces neatly arranged papers of pins.

Every-where the final result has been not skilled workers, but skilled machines. The hundred and two men who made the parts of a watch are gone, and a score of machines make watches so much faster and better than even the division of labor produced them, that the combined watch-makers have been driven from the field, as the old solitary watch-maker was driven out by them.

A new form of skill has come into demand—the skill to manage and tend machines. And in this the division of labor

continues; each operative learns to manage or attend one form of machine, to feed it with its raw material, to correct it when it goes astray, and to take from it the work when done.

168. Improvements in products.—No one who has taken pains to make the comparison will deny that the best goods made to-day are better than the best that were made a half century ago. Doubtless, many poor and deceptive goods are made now as they were made then; and there were, in those days, hand-made fabrics of certain kinds whose honest solidity and strength may defy competition; but, in general lines of goods, comparing the best with the best, a great improvement has taken place. This improvement has sprung from the division of labor, and has arisen from three sources: 1. The finer skill of the workers or of the machines; 2. The invention of better forms and construction; 3. New and better materials.

A Swiss commissioner, reporting to his government on the American watch manufactories, which are pressing the poor watch-makers of Switzerland with so sore a competition, confessed that the watches made by machinery are uniformly better than those made by hand-labor. Our books, our clothes, our furniture, our stoves, our wagons, our plows, and our tools and implements of all kinds are both more convenient and more beautiful than those used by our fathers.

169. Multiplication, diversification, and cheapening of products.—The increase of products of labor, by this organization of labor, has already been sufficiently shown. The extent of this increase can only be measured by those statistics which tell of the growing manufactures, commerce, and agriculture of the great civilized nations. Every-where the populations of christendom are multiplying, but the wealth is multiplying still faster. This increase of manufacturing will be best seen by noting a few examples of staple goods. The following tables will show the growth of the cotton and wollen manufactures of England in twenty years:

YEARS.	SPINDLES.	LOOMS.	COTTON USED, POUNDS.	PERSONS EMPLOYED.
1850	19,173,969	223,626	588,200,000	291,662
1870	32,613,631	411,336	1,078,200,000	414,970
Increase,	13,439,662	187,710	490,000,000	123,308

WOOLENS.

YEARS.	SPINDLES.	LOOMS.	WOOL USED, POUNDS.	PERSONS EMPLOYED.
1850	1,356,691	9,170	Unknown.	64,426
1870	2,081,931	37,356	Unknown.	100,640
Increase,	725,240	28,186		36,214

WORSTEDS.

YEARS.	SPINDLES.	LOOMS.	WOOL USED, POUNDS.	PERSONS EMPLOYED.
1850	864,874	32,617	Unknown.	78,915
1870	1,766,636	63,443	Unknown.	103,514
Increase,	901,762	30,826		24,599

The increase of the cotton manufacture in the United States, during twenty years, was as follows:

YEARS.	SPINDLES.	LOOMS.	COTTON USED, POUNDS.	PERSONS EMPLOYED.
1860	5,235,727	126,313	422,704,975	122,028
1880	10,921,147	230,223	729,781,260	181,628
Increase,	5,685,420	103,910	307,076,285	59,600

The increase in the variety of products is even greater than the increase in amount. The ingenuity of man has been kept on the stretch to discover new forms of products and new objects of desire, in order to give employment to labor and to find new sources of wealth. Novelties in fabrics and in machinery are constantly appearing, sometimes displacing older forms, but more frequently adding to them, and steadily increasing that division of labor from which they spring.

The cheapening of products comes naturally from the increase of supplies; but it grows also, and more largely, from the easy and immense productiveness of the new methods of manufacture, and from the diminished need of skilled labor to be bestowed on each article made. In order that the vast increase of production may find room for its goods in the markets, the demand for consumption must be as largely increased, and hence the efforts of manufacturers are steadily bent in this direction. The rapid diminution in the price of cotton yarn has been already noticed. From 1786 to 1876, a period of ninety years, it fell from 38s. a pound to 2s. 10d. Other goods have experienced a similiar if not an equal fall.

170. The massing of labor and of capital.—Among the most conspicuous and significant results of the division of labor has been the collection of large bodies of workmen together in the same establishments, and of course a corresponding massing of capital. It is not now uncommon to find from 500 to 5,000 operatives employed in the same mill. From 1860 to 1870, the cotton mills diminished, in number, from 1,091 to 956; but the number of persons employed increased, in the same time, 13,341, and the capital employed increased \$42,121,031. In England, from 1861 to 1870, the mills, or factories, diminished from 2,715 to 2,371; and the persons employed increased from 407,598 to 414,970.

This massing of labor and capital favors production by the more complete and systematic organization of the labor groups, by the more thorough discipline, both necessary and possible,

and the greater economies in purchase, consumption, and sales.

The steady absorption or destruction of smaller establishments by larger ones, which is a striking feature of the economic movement of the times, and which prevails through all branches of trade and manufactures, is effected by the greater economies possible to the larger establishments.

These large establishments also command the markets to an extent not possible to the older forms of production. The trade-worker found his customers among his neighbors and townsmen; the gigantic manufactories seek their markets throughout the world. They trade with mankind.

CHAPTER XV.

ORGANIZATION OF LABOR—CONTINUED.

171. **Disadvantages of division of labor.**—That form of the organization of labor which we have discussed under the name of “the division of labor,” and which, as we have seen, has proved so powerful in its productive energies, has also its evils and disadvantages. These evils come chiefly from the reactions of the system upon the health, and mental and moral condition of the laborer. They belong therefore, properly, to Social Economy, except so far as they may affect the productiveness of labor.

The disadvantages of the system may be stated as follows:

1. The injury to the general strength and health of the laborer, resulting from his confinement to a single movement or set of movements, which must necessarily leave many muscles unused. Full health and vigor demand that all the powers of the body shall be exercised proportionately.

2. The performance of a single operation continuously tends to narrow the intelligence. The skill acquired is partial and one-sided, and soon becomes so nearly automatic as to make the man a machine. It thus sacrifices the man to his work. Whatever lessens the demand made upon the intelligence of any man, to that extent lessens the growth and lowers the destiny of the man.

3. It tends to destroy the interest of the laborer in his work. The single mechanic, working alone, sets before his mind the image of the article which he proposes to construct. Piece by

piece he works out its separate parts, and brings them together, with a growing interest, as his work approaches completion; and at last, when he folds his arms and gazes upon the completed fabric, it is with a sweet consciousness of power—a joy of triumph—a feeling of pride in his work. But to the worker under a division of labor no such feeling comes. He shapes a single part of some fabric—a wheel, a bolt, a screw; or he cuts mortices, or makes tenons. He never completes an article and says to himself, this is my workmanship, the proof and product of my skill. If he works with a machine so much the worse. The man and the machine stand before each other all day long, like two parts of the same thing—the man, for the time, almost as much a machine as the thing of iron and wood which he tends. All the proper inspiration of labor is gone. The nobler motives for work are wanting. Men who have learned trades usually work with reluctance in this confined way.

4. The man who has learned only one operation has merely the twentieth, or fiftieth, part of a trade. He can do nothing away from his associates who have the other parts of the trade. He must seek his employment in an establishment like that in which he acquired his skill.

All these disadvantages, doubtless, tend to cripple production; but they must not be overestimated. They are compensated with many advantages, of cheaper goods, and better living—with social advantages of the larger society brought together, and with all the opportunities of education which it favors. Labor is not the whole of life, and if the factory operative lives the other parts of his life well, he may escape much, if not all, of the threatened evils of his narrow employment.

172. Large and small establishments.—The evil of the overgrowth of large establishments, at the expense of the small ones, the larger swallowing up the less, seems at present more formidable, and awakens alarm. The movement may be conceived as going on till two or three great merchants shall

control all the trade of our great cities—a few gigantic manufacturing factories shall supply the markets with goods—two or three railroad kings shall hold the mastery of the railway system of the country, and a few Rothschilds or Barring Brothers shall hold the money power of the country in their hands. It was said that Stewart, the merchant prince of New York, had in his employment, as foremen, scores of small traders whom he had caused to fail, and whose skill he made subsidiary to his own more rapid advancement, while he paid them, as salaries, more than they could ordinarily make as profits.

The question is partly a social and political one, but its economic bearings are important. Leaving out of sight, for the present, all unfair and unjust use that these men may sometimes make of their means to uphold or increase their power, it must be admitted that their success depends, finally, on their serving the public better than it was served before. Men buy of the great merchants or manufacturers because they get better or cheaper goods than they can find elsewhere. As soon as they shall fail to do better for the public than the small traders and manufacturers can do, these will spring up again, and will gain the public patronage.

The competition between the large establishments must continue, and this will not only control their dealings with the public, but will compel each to use all its accumulated power and wealth to advance still further the inventions and improvements on which they were founded.

The large establishments do not diminish the demand for labor, but rather increase it, by reason of the wider scope they attempt to give to the business in which they are engaged. As they are less liable to failures than smaller and weaker establishments, laborers are, therefore, less liable to lose their wages by the bankruptcy of their employers, and the business interests of the country are safer from shocks.

The abuse of power, by great capitalists and traders, belongs, like all other violations of the public peace and well-being, to

another department of science to discuss, and to the political power to remedy. The great economic laws and the intelligence of mankind have been found able to solve more difficult problems than this as they have arisen in the course of the history of labor.

173. Limits of division of labor.—The division of labor has natural limits, beyond which it can not go :

1. In the number of processes in any manufacture; for it is not an extension of the division of labor to set two men to perform one operation.

2. In the demand for the goods; for, if ten men can produce all the goods required, no more can be profitably employed, though the operations may number twenty or more.

3. In the capital of the enterprise; since no man can employ a hundred men if he has not the means to provide machinery, buy material, and pay wages for more than twenty.

The division is evidently more limited in some employments than in others. In agriculture the operations are comparatively few, and are not cotemporaneous. Seed sowing and harvesting can only be done in their seasons. In house-keeping some division is practiced in large households, and more is possible if baking, laundry work, and some other work is sent outside the house. In mining, commerce, and mercantile enterprises a wider division is possible; but the widest application of this form of organization is to be found in the manufacture of those goods which are most complex in character and which involve the largest variety of operations in the making.

174. Division of intellectual labor.—Division of labor is applicable to intellectual employments as well as physical. Dr. Wayland gives an interesting account of its use in calculating the tables made under the direction of the French government to facilitate the introduction of the metric system of weights and measures. Three grades of mathematicians were employed; the first class embraced five or six of the most eminent mathematicians, who sought the best analytical formulæ

for the work ; the second class comprised seven or eight of less ability, who interpreted these formulæ into numbers ; and the third consisted of sixty or eighty arithmeticians who made up the tables.

A useful division of labor is made between the members of the editorial corps of the great daily papers. A managing editor, a political editor, a commercial editor, a literary editor, a city editor, and writers on agriculture, on education, on household art, and on other topics,—all have their separate work assigned them ; and the daily issue is the product of the work of all.

The modern graded school is another example of the use of division of labor in an intellectual pursuit. A superintendent or principal manages the whole and lays out the work. Then separate teachers are employed for the primary, the several intermediate, and the high school grades. This is the common form of organization. A better and more philosophical division of the labor would be to assign to one teacher the reading classes, to another the writing, to another the drawing, to another the arithmetic, to another the grammar classes, and so on through the whole course, letting each teacher teach his own branch through all the grades as far as he has time. This division already prevails in the high schools, colleges, and universities, and is indispensable to their work.

The division of labor may be used, to some extent, in the work of scientific investigation, where wide fields of experiment and observation are to be occupied. Indeed, the subdivision of science into its branches, almost daily more numerous, is a natural division of the work of investigation.

175. Nature's division of labor.—There is a sort of natural division of labor, between different countries, and different parts of the same country, produced by differences of soil, climate, and situation. Thus, China cultivates tea ; the East Indies, spices ; the West Indies, sugar ; Brazil, coffee and cattle. The Northern States of our own country raise wheat and corn ;

the Southern States, cotton and tobacco. But this is rather a division of industries than a division of labor, and is confined mostly to agriculture, and to the collection of the natural products of the climate and soil. These circumstances of climate and situation, except in the extreme cases already noticed of the torrid and frigid zones, have little necessary influence on manufactures. No one, looking on the map of Europe, a thousand years ago, would have selected Great Britain as the work-shop of the world; and yet, by the genius and enterprise of its people, aided by the folly of their neighbors, which drove the industrious artisans of the Netherlands and the silk-weaving Huguenots of France to its shores, Great Britain has led the world in the field of manufacture. Her insular position properly marked her as the home of a commercial people, but without the wealth and the carrying trade of her manufactures, her shipping might have been confined to fishing fleets and the few merchantmen employed in bringing her supplies from more favored lands. Her climate, softened by the warm waters of the Gulf Stream, and her coal-beds and iron-mines discovered in good time, have aided her to overcome other difficulties of position; but to supply her giant mills and their operatives, she has had to bring wools from Spain, Germany, the Cape, and Australia; silk from Italy and China; cotton from India, Egypt, and the United States; timber from Maine and Canada; bread-stuffs from America and the Levant; and other materials and food supplies from the four quarters of the globe. Agriculture may be provincial, but mechanic art is cosmopolitan. It may flourish wherever human skill can do its work.

176. Division of labor between establishments.—There is a stage in the division of labor, now becoming prevalent, in which the processes are distributed to establishments rather than to men. Thus, in wagon-making we have manufactories devoted to the production of wheels, others which produce carriage bodies, others which furnish the iron-work, and others still which make the bent wood-work for thills,

carriage tops, and wheel rims. In each of these establishments there is a further division of the labor among the operatives.

The law of productiveness, for the laborer, or for the establishment, seems to be that the fewer and the simpler the processes undertaken, and the larger the amount of labor and capital invested in actual use, the greater the facility and cheapness of the production. There must of course be a limit beyond which this law will not continue operative, but this limit has not been often, if ever, reached.

177. The laws of value in the division of labor.—The principles of value, described in former chapters, underlie and control the division of labor, as they do all other phenomena in economic science. As the aim of all labor is to produce values, or value-bearing goods, either for the personal use of the laborer, or for exchange for other goods, so the aim of all organization of labor must be to facilitate and increase that production—but to increase it with the least expenditure of valuable materials and of costly agencies. To produce goods which, all things considered, have no more value than those used up in the process of production, would leave no profit—the motive for production. The larger the excess of value in the new product, the larger the profit of the manufacturer. By the division of labor, the manufacturer secures the same amount of products for a less expenditure in skill, strength, machinery, and materials; or, more frequently, obtains a vastly greater product for each equal amount of expense. The fall in the price of his goods lessens his profits, but the enormous increase of his production still leaves him the gainer. So long as the values produced exceed the total values consumed in the act of production, his enterprise is successful.

178. The three stages compared.—These three great forms of the organization of labor—the solitary or undistributed, the division of trades and employments, and the division of labor—are only stages in the evolution of industry from the simple to the complex, from the savage man to the civilized—

from the sparsely peopled wild to the crowded populations of great cities and states—from the childhood of man and society, with its narrow life and its few wants, to the mighty maturity of peoples and empires, pushed by the power of a myriad of desires, and crystallized into complex and wide-reaching social and economic organizations by the differentiating and compelling force of a myriad needs and aspirations.

In the first form, man is dependent upon nature—he does but little except to gather nature's products. In the second, he conquers nature, using her gifts as material on which to impress his own will. In the third, he attains the mastery of nature, compelling her forces to do his bidding, and substituting her powers for his own.

Looked at economically, the values produced by the first are large in the element of utility, but small in the element of effort; in the values produced by the second, the element of effort is large and the element of utility is relatively less; in the third, the values are equal in utility and in effort.

To state these facts in the more familiar terms of purchase or exchange—we estimate the goods of the first class by their power to benefit us, thinking little of the effort which they may have cost. We care not how much trouble the hunter had to catch his game; it is the utility we discover in the venison steak, or in the buffalo-robe that we are willing to pay for. We estimate the goods of the second class by the labor and skill expended upon them; not, indeed, losing sight of the utility, but giving chief heed to the element of effort—to the amount of work the laborer has had to use in their production. The trade-worker himself pleads, principally, his toil and skill expended as the reason of the price charged. In the beautiful machine-made goods of the third form of labor, we consider both the usefulness and the producing energy. The beauty and utility are so large in proportion to the price, that they are easily forced upon the attention as an inducement to purchase, while the efforts required for the production, though not

so obtrusive as the personal labors of the mechanic, are by no means so vague and indeterminate as those of the savage. The manufacturer, properly, insists upon his rightful profits.

179. The future of organization.—It is useless to ask whether there remains another and still more efficient organization of labor to be discovered. It is probable that the pathway of future industrial progress lies in the direction of the wider extension of the improvements already known, and in the elevation of the laborer in education and personal character. The division of labor, though so well known and approved, is not yet so widely used as it might be. In the newer and sparser populations, the older and less productive forms of labor are still in use; and there are large fields of art and industry, in which the division of labor is scarcely known at all.

The invention of machinery goes steadily on, and the increase of scientific knowledge was never more rapid or more promising in practical results. Neither of these movements can be stopped or stayed. The alarms so often felt at the progress of invention, and the threatened revolutions in trade, have heretofore proved needless. The advancing intelligence of mankind has been found adequate to solve the problems of industry, and, though temporary and local disaster has sometimes followed a sudden change of the system of labor, yet the final result has been the advancement in the condition of the world at large and of the laboring classes.

CHAPTER XVI.

CONDITIONS FAVORING LABOR.

180. Efficiency of labor the efficiency of manhood.—

The discussion of the economic problems of labor would not be complete without a statement of the chief conditions which favor its growth and efficiency. Some of these have been necessarily anticipated in their connection with other parts of the discussion.

Wide differences in the working power and productiveness of laborers have often been noticed by the managers of labor and by the students of economic science. After all his care for materials, machinery, and the proper organization of labor, the wise manager finds that he must know and meet the other conditions on which labor can be led or impelled to its highest efficiency.

The laborer is not a machine whose force can be exactly computed by the laws of dynamics. Organize him as we will with his fellows; link him to machinery as closely as we may, something still is lacking to his greatest power and efficiency. Behind the work stands the worker, and within the worker lives the man. The true efficiency of labor is, in the last analysis, the efficiency of manhood. Whatever develops, energizes, or inspires this manhood, increases the power and disposition to labor. The inquiry for the best conditions for labor resolves itself, therefore, into an inquiry for the best conditions of manhood.

181. First condition, health.—1. The primary condition (178)

of labor, like that of life, is physical health and vigor. The laborer, to do his best, must be well fed, well housed, and well clad. Though not a machine, the laborer is, nevertheless, incased in machinery. His body is a mass of mechanical devices pushed by physical force. But it is a living machinery which runs, repairs, and regulates itself; and good hygienic and sanitary conditions of food, clothing, and housing are essential to its soundness and strength. Brain and nerve power and the active and clear intelligence which depends upon them for their manifestation, also require physical health and vigor; and so both strength and skill demand a good bodily support as their first condition of highest efficiency. In the chapter on strength as a factor in labor, this has already been shown with sufficient fullness.

182. Freedom a condition of labor.—2. Liberty is as essential to labor power as it is to the highest manhood. The superiority of free labor has been asserted by nearly all economists, as it is affirmed by all sound philosophy. The labor of slaves, serfs, and of all under bondage of any form, is forever inferior, and usually unprofitable. It acknowledges but one motive, that of servile fear. Slaves can neither choose their own employments, nor enjoy as their own the fruits of their toil. The great stimulating motives of all modern industrial power and progress are wholly wanting to them; and if they become so degraded as to no longer feel the need of these, they lose their efficiency as they lose their manhood. It would be easy to fill pages with citations of testimony against slavery, and with proofs of its unprofitableness. Unfortunately the history of mankind has been so widely and so deeply stained with this crime against humanity, that the evidences of its folly lie broadcast over its pages. All the great states and empires of antiquity were slave-holding. Athens had no citizen so poor that he had not one slave, at least, to care for his house. The conquests of Rome filled Italy with slaves taken as prisoners in war; and Rome fell, at last, as much from the absence of her

once free laborers as from the irruption of the barbarians. To the savage hordes of the North she could oppose only a population of slaves. The feudal system of Europe, during the dark ages, was a system of serfage, and its downfall was the first step towards modern progress.

The degradation of labor and of the useful arts in Greece and Rome, caused by resigning them to slaves, was one of the most fatal defects in their civilization. The magnificent development among them of the fine arts and of literature which they held in honor, shows to what heights they might have attained in the industries which have so enriched and elevated modern civilization.

It would be unnecessary now to discuss this condition of labor, since slavery has disappeared from Christian lands; but it is important to show that whatever in any way restricts the freedom of labor, or of the laborer, lessens their efficiency. Come from what source it may—whether from restrictive legislation, or from the rules of trade unions, or from the customs of society, or from the public esteem in which it is held, or from the personal disabilities of ignorance or vice—whatever holds men back from the utmost freedom of their laboring powers tends to the destruction of their very force and efficiency as the creators of value. To put a ban upon any proper employment, by giving it a bad name, is as serious a bar to liberty of labor, in that direction, as slavery itself could interpose. To give dignity and public honor to labor is to set millions free to work.

183. Intelligence in labor.—3. The value of intelligence as a condition of efficient labor seems too well established to need argument. The power of the cultivated mind to gift even the body with energy and endurance has been frequently proved in the army, in case of the regiments recruited from the schools, and from the more intelligent classes in communities, and also in some of the exploring expeditions of the navy. It was claimed that the superiority of the German armies, and es-

pecially of the Prussian troops, was due to their better education. Doubtless, the mind lends something of its own vigor and activity to the body which it inhabits. Many facts seem to prove this.

But the indirect influence exerted by superior intelligence in the motives it opens to the laborer, in the greater care it enables him to exercise over himself, and in the more skillful employment of his strength, is much more important in promoting the productiveness of labor. The uses of the intelligence in industry have already been discussed in the chapter on intellectual labor. We return to it here to put it in its place among the conditions on which all efficiency in labor depends.

A simple analysis of the things implied in educated intelligence will show its necessary effect on labor."

1. It implies quicker and clearer perceptions of the facts before it. It is true that this power is sometimes attained by the simple student of nature, and is often missed by the mere student of books; but however gained, it is the product of cultivation, and, in general, the higher the intelligence the keener the power of observation, at least of the things in which the mind is interested. The intelligent workman will see quicker and better the qualities of his materials and work than his ignorant fellow-laborer.

2. Intelligence implies larger powers of memory. The memory of the educated man is more systematic, and holds its facts in a more orderly and trustworthy manner; and this, too, helps the laborer, especially in the higher kinds of labor, and in all the computations of business.

3. Education improves the general judgment and the reasoning powers. The man of intelligence sees the relations of things in a larger and clearer way, and reasons more wisely and safely, both as to the ends to be attained and the means of attaining them. He is, therefore, fuller of resources for his work, whether it is hand-labor or headwork.

4. The cultivation of the intelligence implies also a cultivation of the taste—of the sense of beauty and proportion—which must react upon skill in many ways, and thus upon the values of its products.

5. Intelligence implies, also, broader views of life and better conceptions of the rights and relations of men; and, hence, increases the moral and motive power of the laborer. It is true that it is sometimes perverted, and only serves to intensify selfishness and to lend cunning to wickedness; but this is its perversion, not its natural result. The uneducated degrade labor. It becomes drudgery in their hands, and loses as well in public esteem. The educated laborer honors his work, and makes it to be honored by others.

184. Morality in labor.—4. Good morals, public and private, can not be left out of the conditions of good labor. A moral and upright community will always be an industrious one. The introduction of Christianity, with its moral teachings, among any barbarous people, has never failed to increase their industry and to improve their arts. Idleness and vice are almost always inseparable companions, while the self-control required by good morals is near akin to that demanded by industry. The prudence and saving propensity of good morals lend fresh impulsion to labor; but vice squanders both time and money.

In a moral community, property is safer, and is held in higher esteem. The rewards of labor are thus both more secure and more valuable. The industry and wealth of New England have been proverbial in this country, and they were the logical results of the high moral ideas inculcated by the Pilgrims. Industry was held by them as one of the cardinal virtues; and idleness, instead of being a mark of gentility, was considered next door to sin. From childhood up, the youth of New England were taught, and made to feel, that industry was the road to honor as well as to wealth. The maxims of Franklin, in the almanacs of "Poor Richard,"

were full of these sentiments of the value and respectability of labor.

185. Fair reward a condition of fair work.—5. The final condition of good labor—first in the order of time—is fair reward. The primary purpose of all work is to secure some gratification, in which we include the relief from fear or pain. This gratification constitutes its immediate motive, and by its nearness exerts a controlling force. In the case of hired labor, the reward sought is the wages, or price for which the laborer delivers his labor. If these wages are too small, the labor will usually be lifeless and hesitating—watching, not for the completion of work, but for the coming of night and rest. Necessity and competition may compel the laborer to sell his labor for a price which he believes is below its worth, and which will not secure for him his usual support; but the meagerness of his wages will certainly affect his work, though his moral principles may urge him to fidelity to his task. The hope of future employment, at better wages, may, indeed, act like a present reward, and prevent the temporary low wages from affecting his laboring power.

Adam Smith, who was one of the keenest observers in the economic field, said: “The liberal reward of labor, as it encourages the propagation, so it increases the industry of the common people. The wages of labor are the encouragement of industry, which, like every other human quality, improves in proportion to the encouragement it receives. A plentiful subsistence increases the bodily strength of the laborer, and the comfortable hope of bettering his condition, and of ending his days, perhaps, in ease and plenty, animates him to exert that strength to the utmost. Where wages are high, accordingly, we shall always find the workmen more active, diligent, and expeditious, than where they are low; in England, for example, than Scotland; in the neighborhood of great towns, than in remote country places.”

186. Piece wages and time wages.—The stimulating power of piece-wages is greater than that of time-wages, simply because the laborer who works by the piece is in hopes of winning a larger wage; and because the connection between his work and its reward is closer. Smith objects to piece-wages on account of their too stimulating effect. He says that workmen, “when they are liberally paid by the piece, are very apt to overwork themselves, and to ruin their health and constitution in a few years.” Engel, the German statistician, affirms that the introduction of piece-wages into lower Silesia increased the daily earnings of workmen by one third, one half, and even more. Roscher quotes Brassey as stating that the same workmen, engaged in grading and digging on a railroad, “cost eighteen pence per yard when paid by the day, and seven pence when paid by the piece.” The closer the connection between the labor and its reward, the more powerful the stimulus of that reward.

On the other hand, the more distant and uncertain the wages, the less their effect on the work done. Jules Simon, in his book on the work-women of France, states that employers sometimes adopted the plan of paying their workmen once a fortnight, as a means of breaking up the Sunday debauch; but it was found that the labor of the first week showed the effect of the delay. The laborer would not exert himself for the distant wages; his energy awoke only at the last moment to recover the time lost.

187. Self-employed labor.—But if wages by the piece are more stimulating than wages by the day, and still more than wages by the month, or the year, the enjoyment of the full product of his own labor is most stimulating of all to the laborer. Economists frequently quote, with approval of its truthfulness, the saying of Arthur Young: “Give a man the secure possession of a bleak rock and he will turn it into a garden.” The small farmers of France, whose little fields give such a patch-work look to the country, have, by the tireless

diligence of their self-employed labors, produced harvests which are astonishing to our American farmers. Many of our merchants and manufacturers, recognizing the influence of personal interest in the laborer, have tried the plan of giving to their employes, in addition to their set wages, a percentage of the profits of the year's business; and it is reported that they have found it to quicken sensibly the energy and effectiveness of the labors.

188. Distribution of labor.—The distribution of laborers to the different employments has its economic side, as affecting the applications of labor; and its social side, as affecting the condition of the laborer in society. The number of laborers required in each employment is naturally limited by the demand for the goods or services of that employment.

In very primitive, as also in old and crowded communities, little choice of labor is afforded. In the former, because the range of labor is narrow; in the latter, because the employments are all crowded. In both of these cases, the young are, to some extent, compelled to follow the trade of their fathers. But where the conditions of society and the intelligence of the individual permit a large freedom of choice, two classes of considerations chiefly determine the selection: 1. The supposed advantages of the employment for gaining a livelihood and accumulating wealth; 2. The social esteem in which the proposed employment is held, and the personal and social advantages secured to those who practice it.

Under the first, the mercantile and manufacturing employments, especially in our own land, would attract an undue proportion of labor, were it not that mercantile employments demand an accumulation of capital to begin with, and that the mechanical labors are supposed to require a long apprenticeship to fit one to follow them successfully.

Next to the pay offered, the ease or hardship of the labor to be performed influences the choice. Employments imposing much and disagreeable drudgery are accepted only under

strong necessity, or under the temptation of large wages. Thus, common hard work falls to the lot of those who ordinarily have too little intelligence to do any thing else. Stone and brick masons are tempted to their trades by the larger wages they receive over those of the equally skillful but more pleasantly employed carpenters.

Among the personal and social considerations which determine the choice of business, may be enumerated: 1. The social esteem in which the work is held. This drives young American women from domestic service and impels them into the school-rooms, as it also leads their brothers from the farms to the law offices, or the physician's post. 2. The prospect of future advancement. 3. The social companionship afforded either in the workshops and places of labor, or in the residence secured. 4. The personal pleasure and progress resulting from the occupation. The artist, the author, and sometimes those of the other professions find their motives of choice in these last considerations.

It is evident that that employment will be best and most efficiently served which attracts to it the best and most intelligent and energetic laborers. But wages or profits will also be controlled by the competitions for the work to be done, or the business afforded, and hence favorite occupations, by the very crowds they attract, may become unremunerative and lose something of their popularity.

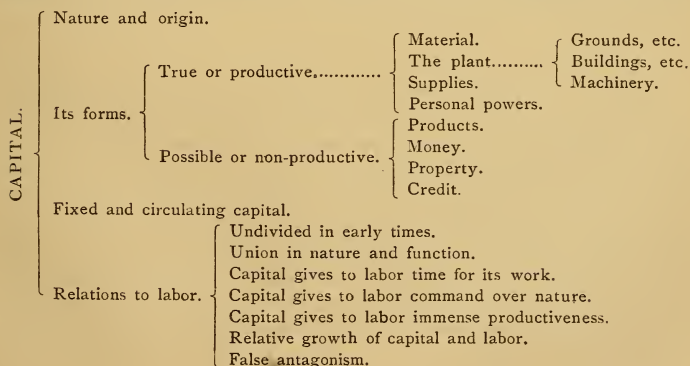
CHAPTER XVII.

CAPITAL.

189. General divisions.—In passing from labor to capital, we enter another of the great battle-fields of Economic Science. Count Rossi called it one of the most thorny parts of Political Economy. What is capital? What does it do? What are its forms and functions? and, What are the laws of its increase and of its reward? These are questions which have engaged not only the attention of men of science, but also of those who seek industrial reforms or revolutions.

Dismissing, as in the case of labor, all the social problems connected with capital, to their appropriate place in Social Economy, our present concern lies with its functions as one of the three great factors of work. These factors were shown to be *nature's gifts*, *labor*, and *capital*. Two have been sufficiently explained; the third remains to be studied.

The field is somewhat broad and complex; and the following chart of its territory will be useful to the reader and student:



190. True nature of capital.—Capital is wealth; but all wealth is not capital. This must be remembered, for a gateway of error lies here.

Taken as wealth, or goods, the origin of capital is the same as that of all other wealth. It is the preserved product of past labors. It does not seem necessary or useful to repeat the old stories, showing that the fisherman found that with a net he could catch more fish, and thus discovered capital, or learned its value.

Taken as wealth, capital is also of the nature of all other wealth. Its values have the same elements, and it is subject to the same laws and fluctuations. It may be bought, sold, exchanged, and consumed like all other goods. As property it is like all other property; and hence it is frequently confounded with property in general.*

But capital, as capital, is not simply property or goods. Here lies the key to its secret, missed by so many economists.

To make its real nature, as capital, clear, let it be noticed that wealth has three distinct aspects under which men count it to possess value:

1. Looking towards the consumer, it is valuable for the satisfactions it yields. He buys goods because they can gratify his desires.

*Whether all wealth, saved from immediate consumption, is capital, has long been one of the debated questions among economists. J. B. Say and MacCulloch held that all wealth, of whatever kind, is capital, and the "*Dictionnaire de l'Economie Politique*" follows their opinion. On the other hand, Adam Smith, followed by Rossi, and in this country by Amasa Walker and Prof. Perry, counts as capital only those goods which are used in production. The debate concerns only the use of the word capital, for those who call all wealth capital divide capital into productive and non-productive, and in their description of the former class virtually concede that it alone has the functions of true capital.

2. Looking towards the possessor of other wealth, it is valuable because of its purchasing power. He buys goods because he can exchange them for other goods which he may desire.

3. Looking towards the laborer and his work, wealth is valuable because of its productive aid and energy. He buys it because it will help him to increase largely his production.

It is under this last aspect alone that wealth is capital. Capital is not wealth as wealth, but wealth as a producing agency.

191. Origin of capital.—Capital may be properly described as stored-up labor, or as stored-up force and skill. It enters into production under these forms.

If labor be suspended upon any material before it reaches its proposed final form, as when trees are cut into logs, or logs are sawn into lumber, or hides are tanned into leather, these half-completed products have value as goods, but they require additional labor to bring them into the final forms of houses, or furniture, or boots and shoes, in which they can meet the wants of man. If the first labor is done by one workman, and the incomplete product be sold to a second, it evidently comes to the latter with the labor of the former stored up in it. This is the first form of capital. The second workman buys it because of the work in it, and because it will save him the work of going to the woods for his materials. It is to him, prepared material.

If in place of preparing materials the first laborer had made a tool or machine, it would have come to the second not only as stored-up labor, but also as stored-up force and skill. Its use is to give additional force and effectiveness to his own energies, or to enable him to control and use the energies of nature. He might not be able to invent or construct the machine for himself, and he buys the machine as including the aid of his predecessor's skill. The machine may be regarded as the second form of capital.

As the processes of production often occupy weeks or months before the finished product can be reached, it is evident that the laborer must have a supply of food and other necessities of life laid up in store, or he must give a portion of his time to obtaining these. They are the means of renewing his used-up power of labor. If, now, the first laborer gives his toil to the production of these supplies, they will be bought by the second not only as stored-up labor, but as stored-up personal energy which they nourish and preserve. This is the third form of capital.

Now suppose that our first workman has spent his time and energies in learning certain branches of knowledge, or in acquiring some special form of skill which the second workman needs to complete his product, the latter will buy the services of the first and put them also into his work, as he has already put in his own personal powers. This fourth form of capital is not usually called capital, but labor. It is labor to him who sells it, and the price he receives is wages; but to the purchaser it is one of the investments he makes in his products. It is not stored-up labor or skill, in the same sense that the other forms of capital are; but it is, in fact, the stored-up labor which was used in acquiring the power or intelligence now offered. The wages paid are always considered capital, and it is of little consequence whether we consider the value purchased as labor or as capital. It is labor to him who does it, and capital to him who buys it. Adam Smith enumerates "acquired and useful talents" as capital. He says "the perfected skill of a laborer may be considered as a machine or instrument which abridges labor and returns with profit the expense which it cost."

192. Two chief classes of capital.—We have affirmed that capital is wealth, but that all wealth is not capital. This is strictly true; but as all wealth may be turned into capital, or at least exchanged for capital, men usually count all their possessions as so much possible capital. This may be allowed if

care be taken not to lose sight of the real nature of capital. We shall then have two forms of capital:

1. True or active capital.
2. Possible or reserved capital.

Either form may pass into the other, since the chief difference between them is in the uses for which they are employed. An exception must, however, be made in the case of those forms of property which can not be used in production, in one of the four methods described.

Money, the form in which capital is usually borrowed, and in which it is estimated or counted, is not, properly, capital at all, except in the business of exchange, in which it is an almost indispensable instrument. And, as some exchanges are essential in the management of all business, money may be regarded as a sort of universal capital. In actual production, money is neither materials, machinery, supplies, nor labor; though, from its universal exchangeability, it is easily transformed into any one of these. It is the most convenient form of reserved capital, because it can at once, and in either small or large quantities, be exchanged for true capital.

The finished products, not yet sold, belong properly to possible, and not to active, capital. They are not wealth to be used longer in production by their producer, but, like any other property owned by him, may, at his will, be exchanged for materials or for some other form of true capital.

193. Credit.—There is an agency which, though not property, performs some of the functions of property, and enters largely into production, as it does into all the forms of business. This agency is credit. By means of this, men who are without wealth of any kind, buy materials, employ labor, purchase machinery, and produce goods.

Credit is the power to borrow other people's property. It is the confidence which one's character and circumstances inspire in other men, and which induces them to entrust the credited party with their goods or money, on his promise to repay the

same, in a stipulated time, either with or without interest or compensation for use. It is a purchase with the payment deferred. The borrower is said to "obtain credit," or to be trusted. The lender is said to "give credit." The promise to pay is usually written, and this written promise is called a promissory note.

Sometimes the real party trusted is not the one receiving the goods; but some one else, who promises to insure the payment, and who also signs the note as endorser, or backer. In other cases, the trust is not a personal one; but the goods or money are delivered, on the pledge of some property as security for the payment of the debt when due. But, whatever be the motive of the trust, or the security given to the lender, the party receiving the goods or money is said to have obtained credit.

Credit fills, necessarily, an immense space in the world of business. The laborer gives credit to his employer, at least till pay day comes. Goods are bought and sold on credit; materials are furnished, work is performed, great industrial enterprises are undertaken, and immense transfers of wealth are made daily, on credit—that is, on a promise of future payment, secured by the good faith of the party promising, or by other securities. Every debt that is owed implies a credit given to the debtor. All debts are also credits. All notes, drafts, bills of exchange—all bank-notes and greenbacks—all bonds and mortgages, all securities of governments or corporations, imply so many credits.

Credit is not wealth in itself. It does not count in the world's resources in the census of actual values; but it has the power to command the use of wealth, and therefore may be counted as a sort of reserved capital. Materials and labor bought on credit serve the same purpose as those bought for money.

The questions concerning the credit system and its advantages or dangers do not belong here.

194. Variations in forms of employed capital.—The four forms of true capital, already described, do not enter equally into all branches of business. They are largely varied both in character and in relative amounts. The case already supposed is that of simple manufacture; but it is evident that in manufactures the amount and cost of materials used, as well as of machinery, supplies, and personal effort will largely vary.

Materials must be understood to include not only the materials, either raw or partly prepared, out of which goods are to be constructed, but also all auxiliary substances, such as lubricating oils, acids, mordants, and other matters consumed in the processes of production, though not remaining in the products. The finished product of one industry is often the material of another, as in the case of the lumber and leather. Absolutely crude or raw materials, as found in nature, can not be counted as capital. They are gifts of nature and have no value till appropriated by man. The fish in the sea and the fur-bearing animals in the forests, are not the capital of the fishermen and trappers who take them, though they are the materials to which their labor is applied.

Machinery is to be understood as including all that is called "the plant." It embraces the buildings and structures of all kinds used in or for the business, with the grounds on which they stand, and all yards and inclosures, private roads, ways, and canals. It includes also all tools, machinery, implements, and vehicles employed about the work, and all rights, franchises, or permits necessary to the use of any machinery.

Supplies include all necessities of life, for the manager or proprietor, and all employes. They must also embrace the support of the families, as the workman must provide for his wife and children. Food, housing, clothing, and the comforts common to the station of each person are to be counted in. These are usually reckoned as parts of the absolute wages, whether provided by the employer or purchased by the workman.

The relative amounts of these different forms of capital differ with the different departments of industry. In agriculture, the raw materials consist chiefly of the seed and fertilizers. The land itself is to be counted as a machine. The farmer's plant includes his farm, teams, tools, barns and other buildings, fences, and vehicles. Cows and sheep, kept for their products, belong to the machinery; animals bought or raised for fattening may be properly counted as materials. The supplies are the food provided for men and working or productive animals, with all necessaries for both.

In the mercantile industries, the goods bought and sold must be regarded as materials, which it is the merchant's business to collect from the several producers, and to store and distribute to his customers. Most of his active capital must, evidently, be in this form, while in agriculture the material used is comparatively small in amount. The merchant's plant is chiefly his store-house and its fittings, unless he is also an importer of goods, when his ships and other vehicles of transportation are to be reckoned as a part of his machinery.

195. Other classifications of capital.—Other classifications of capital have been employed by many economists, two of which it is just to mention. The first divides all capital into productive, or "capital in use," as some choose to call it, and non-productive. Productive capital agrees nearly with what we have named true or active capital. Non-productive is simply goods not employed in production, but devoted to consumption. The distinction is not well taken, since all wealth, unless hoarded, is in process of consumption,—that which is employed in production, as well as that which is being used to satisfy wants. The cotton-mill is consuming its machinery, as much as its fabrics are being consumed by those using them. Nor is the latter consumption unproductive, since those fabrics may be a part of the necessary supplies of its own operatives, or of those of other manufactories.

The second division is into fixed and circulating capital. By fixed capital is meant, as ordinarily defined, products which have reached their final form, and are not to undergo any other changes except in their consumption. Amasa Walker ("Science of Wealth") limits fixed capital to "property employed in production, which, from its nature, can not be advantageously changed to any other use than that for which it was originally designed." He, however, includes money in circulating capital, though it is evident that it can not be applied to any other use than that of money, except by destroying its character as money, and reducing it to bullion. Dr. Roscher says: "Fixed capital may be used many times in production by its owner; circulating capital only once." He classes a farmer's beasts of burthen as fixed capital, and his cattle intended for slaughter as circulating capital. It is obvious that the distinction between the two kinds is too vague and indeterminate to be of much use. All wealth which is in use in any way, whether as materials, as machinery, as supplies, or in ordinary use to satisfy human wants, is undergoing changes more or less rapidly, and, in most cases, disappears in one form to reappear in another, either in a new form of the same substance, or in a new value created by the use of the old. Bread is consumed at once, but a house may wear for a century. Both yield pleasure, and both nourish bodily strength and health as their proper and valuable result.

A farmer's oxen are slowly consumed in dragging the plow, while his fat cattle are killed and consumed in a few days, as meat upon the table, and both consumptions may be productive. The former produces grain which furnishes bread and seed for the next year; while the latter serves as food for this. It can not even be said that wealth tends constantly toward more fixed and permanent forms. With the increase of wealth the more permanent forms will increase in amount, but not more than the goods of immediate use and consumption.

Permanency belongs to no form of value. All values begin

to decay and disappear from the moment they reach their full ripeness and completion. There is, it is true, in some articles, a value in their antiquity, but in these the value may be said to be still ripening. But objects valued for the use that is in them, and not for associations which they represent, change with years if not with use, and so their values gradually decay or are consumed. As J. S. Mill says, wealth is perpetuated like population—by constant reproduction. The majority of the wealth of any country is said to be the product of the year. The accumulated wealth of the United States probably does not, in any case, exceed five times the annual production.

CHAPTER XVIII.

RELATIONS OF CAPITAL AND LABOR.

196. Economic relations.—Capital has been seen in its origin, nature, and kinds. We advance, now, to see it standing beside labor, in mighty companionship,—the twin giants of modern arts and civilization.

The relations which bind these powerful agencies of industry together, in mutual helpfulness, have incidentally appeared along the track of the discussion, but their importance, if not their difficulty, demand for these relations a fuller exposition. But we must still, for a time, cleave to the purely economic side of the subject. It is the relations of capital and labor, not those of the capitalist and laborer, which are here in sight. The man behind the capital and the man behind the labor must finally be seen; but in this chapter both capital and labor may be regarded as belonging to one and the same man. The separation in ownership imports much in social science, but is unimportant in pure economics.

In the early stages of society and of the arts, capital is scarcely thought of separately from labor. The savage does not think of his bow and arrow, or of his knife and hatchet, as capital, nor calculate their share in the work of the hunt; but he knows full well their convenience, and will not willingly start on the chase without them. He does not count his hut as a producing agent, nor consider his store of corn and venison, dried for winter use, as giving him any larger power as a producer. He avails himself, indeed, of all these, but it

is as he uses his hands or feet, without a thought of their separate force or value. A long distance must have been traveled over the roadways of human progress before labor and capital began to be seen as separate economic agents; but their relations existed from the outset, and were the same in form and force that they are to-day.

197. Union of labor and capital necessary.—The first and simplest relation between capital and labor is that of their necessary union—their almost unity. Capital is simply the product of labor; but a product, as we have seen, in which labor has stored itself to unite with new labor. The idea which the first laborer sought to realize passed into the material product, as far as completed; and now it lies partly accomplished and visible in the work done, and partly an unrealized conception in the mind of labor. Thus, capital is the incomplete thought of labor; it is unfinished work. The felled oak is the initial idea of the finished ship.

To discard capital, labor must disjoin itself from all its products, and perpetually begin anew. Its half-finished work of yesterday must be thrown away, since, in the strictest sense, that, too, is capital to-day. The food it has stored, the tools it has prepared, and the material it has gathered must be abandoned, if it will not unite its efforts with capital, for these are the very forms that capital chiefly takes to help labor. The laborer who would be rid of capital and its helps, must disarm himself of his tools, disrobe himself of his clothing, turn himself into the street for his dwelling, and abandon all provisions he has made for his sustenance in labor; nay, he must fling aside his products as fast as they are sufficiently advanced to be valuable, for the very matter he works on turns to capital under his strokes. Even the man himself is, as a laborer, the stored-up toil of years of costly nurture.

But the union of capital and labor is something more than that of cause and effect—of producer and products. The forms into which these products are purposely wrought have

their utility—their fitness for some use or service—and by virtue of this utility, they give to labor their powerful coöperation and aid. They unite with the workman as a fellow-worker. They add to the force of his blows, to the push of his strength, to the plastic skill of his fingers. With his hammers, as “artificial fists,” he drives the spikes, and pounds the rocks to pieces. With his edge tools, which one might call artificial teeth, he cuts down the forest trees, and hews and smooths the timber to his wants.

Every-where the two stand and work together in a mutual dependence—a union as necessary as it is fruitful. Capital without labor can produce nothing. Labor without capital can scarcely sustain life. Apart, labor is helpless, and capital is useless as capital; together, they are almost omnipotent. They people the wilderness with populous cities, and turn the sea into dry land. They have filled the world with beauty and plenty, and have lifted humanity from the nakedness and brutality of barbarism to the refinements and power of civilization.

198. Capital gives to labor time.—The second important service of capital to labor is the gift of time for its work. The labor of the savage, or of the man unaided by capital, must be given to the satisfaction of immediate wants. He must work in order that he may eat and live, and he must work chiefly, if not wholly, at the food-getting and life-sustaining employments. His game must be caught, or his wild fruits gathered, to-day, for he has nothing to eat; and his hut or wigwam must be built at once, for he has no other shelter for his sleep. But the laborer who has capital to sustain him, may lay out the work of years before him; and may engage himself in great undertakings which a century will not see finished. Capital is stored-up food and sustenance.

In modern industry, long periods of time and stretches of space often intervene between the raw material as it lies in nature, and the finished product as it appears in market. In

the gigantic cotton manufacture, the labor begins with the preparation of the soil and the planting of the seed in India or Carolina. Months, and even years, may pass before the harvested fibers, crossing the ocean to Old or New England, reappear, from the looms and the calico printing-works, as finished cloth, and get their price from the consumers. And all this time, an army of laborers, including planters, pickers, ginnerers, packers, carders, spinners, weavers, and printers, and of adjutant laborers, as ship-builders, sailors, machinists, and others, are employed and sustained to help on the work. It is capital that stands behind them all this time, sustaining the laborers of all sorts, and enabling them to go on fearlessly with their labor.

Men project railroads across the continents, and telegraphs through the oceans, which must cost millions of treasure and years of time, trusting to the power of capital to sustain them and their armies of labor till their work is done, and till the receipts from loaded trains and from the myriads of messages shall pay them for the toil. Labor, working alone and unsupported, has the hour for its own; united with capital, it is the master of the years—of the centuries, if necessary, to its tasks. Some of the cathedrals were six centuries in building.

199. Capital gives power over nature.—Capital increases immensely the productiveness of labor. This fact has constantly reappeared in our discussions. Its secret remains to be told. Capital lends to labor power over nature! The solitary and unaided worker fights nature. Its rugged materials and unsubdued forces resist him at every step. Nature's gifts are, indeed, free, but he must come and fetch them, if he can find them. Capital means mastery over nature. Alone, man searches for nature's fruits where she produces them, in the wilds. With capital he compels her to grow them in larger profusion and in richer forms, by his doorway. Alone, he hunts his meat in its native haunts; with capital, his yards and fields are filled with the fattened pork,

the tender mutton, and the nourishing beef. With the aid of capital, he sets nature at work, and waits in ease till it has done its work and ripened its products.

200. Capital commands nature's forces.—Capital means, also, the command of nature's forces. Unaided, the laborer lifts his burthens against gravity; with the lever, or the wheel and axle, the simplest forms of capital, he makes his own gravity lift the heavy log and raise it to its place upon his hut. Further on, the gravity of the ponderous locomotive, cleaving to the track, carries his loads, a myriad times heavier and a hundred times swifter, than he could have borne them. Time, space, gravity, cohesion, fire, floods, and the finest chemic forces of nature, all wear the harness that capital puts upon them, and work under the hand of labor. At the Centennial Exposition, General Grant, in the presence of the representatives of the world, assembled in Judges' Hall, touched an electric button, and instantly, in the distant Machinery Hall, the ponderous arms of the great Corliss engine began to move, and in all directions, throughout the giant building, thousands of machines began their work. It was a fit type of labor and capital. General Grant stood there, the representative of labor; the myriad machinery was capital, holding in leash the harnessed forces of nature. The mere touch of labor set them all at work.

But capital is more still; it is human skill taught to fingers of steel and arms of iron. In touching the electric button, General Grant set at work the skill of ten thousand inventors incarnated in that wilderness of machinery. The girl who stands before the cotton-spinning machinery, wields the skill of Arkwright and the hundreds who have added their work to his.

The enormous productiveness of modern industry, already described in another chapter, ceases to be wonderful when the nature of the aid that capital gives to labor is fully understood. This productiveness already so far exceeds the cur-

rent demand that large masses of machinery lie idle for months out of every year. Could the "insatiable market" be found which would absorb, at fair prices, all the goods that labor and capital can produce, they would double their productiveness almost in a single year.

201. Relative increase.—The relative growth of capital and labor is one of the questions which economic science is called upon to answer.

It is obvious that capital may easily be increased to any desired extent. Human labor can multiply only with the multiplication of population. It is true that the actual laboring force never equals the entire labor power of the population, and the active capital never equals the entire wealth. Much of both labor power and of possible capital always lies idle. Neither capital nor labor come into service till the demand for them promises a reward equal to their value at the time of the service. They both work for wages, though the wages of capital are usually called interest.

The demand for both labor and capital depends upon the demand for goods; but, subordinate to this, capital creates a demand for labor, and labor a demand for capital. Capital, seeking employment, demands labor; and labor, wishing to employ itself, demands capital. Reference is made here to true capital, not to the money or other property which the owner may wish to loan or invest in other ways, though it is evident that the interest on money loaned must also be finally paid by the products which come from its uniting somewhere with labor.

All increase of wealth is not increase of capital. When wealth is multiplied rapidly, much of it goes into the erection of costly houses, and into expensive equipage or other forms of luxurious consumption. But, in general, capital increases with wealth, for (1) most holders of wealth desire to make it productive, and are ready, therefore, to employ it as active capital; and (2) the prevalence of wealth increases the con-

sumption of goods, and so calls into action both more capital and more labor.

202. Interest falls as wages rise.—History proves that capital increases faster than labor, at least in modern times. This might be proved by showing, from statistics, that wealth has increased faster than population;* but it will be better shown by the fact that the interest on capital has steadily declined, while the wages of labor have steadily risen. Fifty years ago, throughout the Eastern States, the common wages of servant girls was from fifty to seventy-five cents a week, and those of common laborers, fifty cents a day, or ten dollars a month; to-day the same persons would be paid, respectively, three dollars a week and from one to one and a half dollars a day, or twenty-five dollars a month. During the same time, the interest on common loans has fallen from seven per cent to five per cent on the average. In England,

*According to the computations of Gen. F. A. Walker, Superintendent of the Census, the population and aggregate wealth of this country, in 1850, 1860, and 1870, was as follows:

DATE.	POPULATION.	AGGREGATE WEALTH.	WEALTH PER CAPITA.
1850	23,191,876	\$ 7,135,780,218	\$307.68
1860	31,443,321	16,159,616,068†	513.89
1870	38,558,371	30,068,518,507	779.81

Gen. Walker thinks the increase was something less than here shown, the error being due to errors in census and to inflations of prices in 1870. But with all deductions the increase was still much larger than the increase of population.

David A. Wells estimated the aggregate wealth of the United States, in 1860, at \$14,183,000,000, and its increase, the following nine years, at \$9,217,000,000.

The aggregate, for 1880, has been estimated at \$38,000,000,000.

† Including slaves, valued at \$3,000,000,000.

between 1660 and 1685, it was complained that the mechanics demanded one shilling a day for their labor, though they often accepted less. In 1830, the wages of the English carpenter was five shillings and six pence per day. The legal rate of interest, which had been, in the time of Henry VIII., ten per cent, and in the reign of James I. eight per cent, was, in 1660, six per cent; and it fell, the next century, to five per cent. The common rate in England, to-day, is from three to four per cent. This increase of the price of labor and cheapening of capital prove, as by a double argument, that capital grows faster than the laboring power of the world. But the full breadth of the proof is not seen without taking into account that capital plays constantly a relatively larger part, and labor constantly a smaller part, in the world's work. Machinery, which is one of the forms of capital, has replaced a large part of the hand laborers of former times, thus increasing the demand for capital and diminishing relatively the demand for labor; and yet the aggregate increase of capital has grown so far beyond the increasing aggregate demand, that its price steadily falls, while the aggregate demand for labor has so steadily outgrown the supply that work has multiplied and wages increased even faster than the interest on capital has fallen.

H. C. Carey has interpreted this increase of wages and diminution of interest as an increase of the value and power of men over the power and value of capital. He says ("Principles of Social Science"): "With the growth of wealth and numbers, the power of combination increases, with great increase in the productiveness of labor, and in the power of accumulation,—every step in that direction being attended by decline in the power of the already existing capital to command the services of the laborer, and by increase of power on the part of the latter to command the aid of capital. . . . The laborer's proportion of the increased product tends thus steadily to increase, while that of the capitalist tends as regu-

larly to decline." This aspect of the fact is doubtless also true as a result, the larger demand for labor over the demand for capital giving the laborer power over capital. Mr. Carey also brings out the fact that, notwithstanding the diminished rate of interest, the capitalist gets a larger return than before. He states that in France, in the period from 1700 to 1840, the average wages of agricultural labor quadrupled. At the first date, the proportion of products allotted the laborer was thirty-five per cent; at the latter date, it was sixty per cent; the land-owner retaining, in the first case, sixty-five per cent, and in the latter, forty per cent. But so great has been the increase of product, that the smaller proportion of the latter date gave to the capitalists 2,000,000,000 francs in place of 850,000,000 francs, which they received at the earlier one.

203. No antagonism of capital and labor.—It seems almost unnecessary, after the facts already stated, to affirm that there is no antagonism between labor and capital,—that their true relation is one of mutual dependence and helpful coöperation. But this antagonism is so frequently implied or paraded in popular speech, that it seems wise and needful to notice the question here, if for no other reason, yet to send it where it properly belongs—to the chapter on Distribution of Wealth and to Social Economy.

It has already been shown that capital without labor can earn nothing (the interest on money loaned being in the last analysis paid out of production), and that labor without capital—that is, without its tools, materials, and supplies—can scarcely win its daily food. A quarrel between labor and capital would be a quarrel between the worker and his tools—between raw materials and the hand that proposed to shape them into things of beauty and utility.

The antagonism, if one exists, must be between the laborer and the capitalist, as men; and it comes about from some disagreement as to the share which each shall have of the products of their united work and wealth. It is, therefore, a ques-

tion of the distribution of values. But, as it also involves questions of the rights and well-being of both capitalists and laborers, it belongs also to Social Economy.

204. The great forms of work.—Groups of industry.—The field of work must now be viewed under another aspect. Our survey has thus far taken in its great factors,—nature's gifts, labor, and capital, under their general laws and relations; but, under a closer view, the innumerable industries will be seen to group themselves into a few great classes, each having its own special field and its own distinctive forms of materials, labor, and capital.

In our first broad glance at the field of work, Chapter X, we saw before us man confronting the world of matter and force, and our inquiry showed that his power over nature was limited to three great classes of changes which he might effect: 1. Changes in substances; 2. Changes in forms; and, 3. Changes in place. These three furnish the ground and occasion for the chief subdivision of human industries.

The changes of substance are effected by nature's vital and chemic molecular forces, and may be counted, therefore, as including all nature's immediate products, animal, vegetable, and mineral. Man, in these, does but watch and serve natural processes, and collect for himself their products.

The changes in forms are such as man imposes upon crude matter, shaping the raw and commonly worthless materials into forms designed by his own thoughts. These products are pre-eminently products of mechanic art. The changes in place are the transportation of goods and materials from their places of production to those of final use or consumption. They involve, as their necessary adjunct, the exchanges of goods.

The general features of these groups of changes have already been given with sufficient fullness in Chapter X. We now recall them to study their economic conditions; and, for the convenience of the reader and student, we show them first in outline.

FORMS OF WORK.	Changes in sub- stance.	{	Natural products.	}	Vital. { Foods—Animal, vegetable. } Agriculture. Materials—Animal, vegetable.
	Changes in forms.	{	Mechan- ical products.	}	Chemic. { Ores, rocks, coal, salt, etc.—Mining and metallurgic arts. Products, drugs, etc.—Chemic manu- factures.
	Changes in place.	{	Exchange of products.	}	Building arts—Architecture, carpentering, etc. Cloth-making arts. Tool-making—Machines, implements, vehicles. Engineering arts. Decorative arts. Between owners simply—Trade—Mercantile art. Between owners and places—Commerce { Foreign. Domestic. Changes in place—Transportation.

The limits of this volume forbid more than a brief discussion of one or two of these.

CHAPTER XIX.

AGRICULTURAL OR RURAL ECONOMY.

205. Synoptical view.—Agriculture, the widest employment of mankind, has marked features which give it a distinct as well as a prominent place in economic science. As our discussion of it must be limited to a single chapter, in place of the volume which it properly demands, it will help us to present it first in outline, as follows :

AGRICULTURAL ECONOMY.	Nature and importance of agricultural industry.		
	Divisions or classes.	Soil cul- ture.	Common—Field crops, grasses, cereals, roots, etc.
			Plantation—cotton, sugar, tobacco, coffee, etc.
		Animal husbandry.	Horticulture—market gardening, etc.
			Forestry and fruit culture.
			Stock breeding and feeding—horses, cattle, etc.
	Sheep husbandry—wool growing.		
		Dairy farming and manufactures.	
		Fish culture, poultry, bee-keeping, etc.	
		Silk worm management.	
	Mixed husbandry.		
Peculiar features of agri- cultural economy.....	<div><div>1. The wants it supplies—its markets.</div><div>2. Character of its products.</div><div>3. Its materials and forces.</div><div>4. Its enormous extent.</div></div>		
Factors....	Nature's gifts—land, atmospheric forces.		
	Labor—human, animal—cost and economy of.		
	Capital.....	Land and its improvements.	
Animals—working and feeding.			
Machinery and working capital.			
Some mistakes of Ameri- can rural economy.....	<div><div>1. Waste of land.</div><div>2. Waste of animal forces.</div><div>3. Want and waste of capital.</div><div>4. Waste by poor and insufficient stock.</div><div>5. Too restricted cultures.</div></div>		

206. Nature of the agricultural industry.—Of all the industries, agriculture stands nearest nature. It is indissolubly bound to the soil. In the beginning, it was merely the gatherer of nature's gifts of fruits, vegetables, and animals; and even now, in its highest development yet reached, it simply follows and serves nature. Its whole art lies in the right use of the energies which are found in the sunshine and soil, and in the living organisms of plants and animals. To conserve, direct, utilize, and collect these energies is the whole problem of practical and productive agriculture.

As the great food-producing industry, agriculture stands also nearest the life of mankind. Thus, nearest nature and nearest man, it unites the two in a vital and economic connection—man mastering nature; nature serving man.

Out of the soil, agriculture raises the vegetables which, feeding on mineral matter, transmute it into organic substance. With this it feeds its animals, and thus transforms its coarser vegetables into the more highly organized and nutritious animal matter. On these two, vegetables and animals, it feeds man. Thus it stands as the helpful watcher over that divinely organized process by which the dust of the earth is continually transformed into living men.

Then again, it serves the divine will, and breathes perpetually, into the re-created man, the breath of life. Its vegetable organisms receive and store up energy from the solar heat which causes their growth. Animals take and transmute this energy into intenser forms; and man, feeding upon both, borrows from both the life-feeding forces which keep him "a living soul."

But agriculture pauses not with its gifts of food and vital force; it helps to house and dress the bodies which it nourishes and re-invigorates. In the fibers of such plants as the cotton, the flax, the hemp, and the manilla, in the skins, hair, wool, and furs of its animals, and in the cocoons of the silk worms, it produces the materials for our clothing; and out of its forests

comes the wood for our houses and their furniture. Nor does its field of usefulness end here. From its forests and fields, and from its animal tribes, come innumerable and indispensable materials for a hundred arts—the means of our luxury and the substance of our wealth.

Thus, standing by the great mute laboratories of nature, in which the life forces are working the mysterious changes of matter; watching and guiding these forces to richer and finer products, agriculture holds an economic position unrivaled in its power and importance among the employments of mankind.

207. The two grand divisions of agriculture.—In the two great classes of its products—animal and vegetable—is found the basis of the main subdivision of agriculture,—plant and animal husbandry, or soil culture and zoötechny. Both employ the soil; but one seeks vegetable, and the other, animal products.

The first account of human industry which comes down to us from remote antiquity, shows these two grand divisions of agriculture as already existing. Cain, the first born, was “a tiller of the ground,” and his brother, Abel, was “a keeper of sheep.” Adam and Eve were simply fruit-growers, gathering the products of the trees they found planted, though the divine voice had already given them both flesh and fruits as their natural food, and thus predicted the forms their labors must take.

Among semi-civilized peoples, the rearing and care of animals is the favorite form of husbandry. Abraham and his descendants, until their removal to Egypt, were chiefly herdsmen; and the nomadic tribes of Asia were, for ages, supported chiefly by the herds of cattle, horses, and camels, which they drove from place to place to find pasturage. They often possessed large amounts of wealth of this sort, but their exchanges were few, and their arts were simple and unproductive. When they sought permanent settlement, they were driven to a cultivation of the soil to secure supplies of food for themselves and their

animals. Civilization depends permanently upon the power of the soil to yield support to the great social aggregations it requires.

208. Mixed husbandry.—The highest condition of agriculture has been found to require the union of both of its forms, or mixed husbandry, as it is called. Soil culture can not wholly supplant the use of animals, nor flourish without their aid. The fertility of the soil is not inexhaustible, and the litter from the pens and stables of the domestic animals has been found, in most cases and places, the best and cheapest means of restoring the wasted fertility. Nor can agriculture, in one kind, supply the food required by mankind.

The two cultures are complementary to each other. A large part of the products of the soil, and those most easily and abundantly produced, can be utilized only by the aid of cattle or other domestic animals. The cereals, fruits, nuts, and a few succulent plants and roots can be made to serve immediately as food for man; but the large and luxuriant family of grasses, the stalks and straw of maize and the grains, much of the foliage of the herbaceous plants, and the coarser root crops can avail for human food only after they have been transformed into the flesh of animals. The refuse is thrown back into the ground, and fits it for fresh production. Thus, in the very constitution of nature, the union of the two great classes of agriculture lies decreed as by a fiat of deity.

209. Classes of soil-culture.—The chief classes of soil-culturing agriculture are: (1) the common field farming, too well known to need description; (2) Plantation farming, in which large tracts of ground are devoted to some one crop, on which the planter relies for his profits, and to which he devotes his capital and labor chiefly, if not wholly; as in the great cotton and sugar plantations of the Southern States, the tea plantations of China and Assam, and the coffee fields of Java, Arabia, and Brazil; (3) horticulture, including the minute and intensive cultivation of the market gardens; and (4)

the forest growing, and tree culture of the fruit-raisers. To these may be added many forms of special cultures, as of medicinal plants and others used in the arts. Each of these has its peculiar economic conditions, which must be mastered by successful managers, but would too much enlarge our field of discussion.

It is to the wide field of common agriculture, the great industry which feeds and clothes us, that our discussion must be chiefly confined.

210. Economic peculiarities.—The wants met.—The chief economic peculiarities of common agriculture are: 1. The character of the wants which it meets and satisfies; 2. The nature of its products; 3. The materials and forces which it employs; 4. The extent of its operations.

The wants met by agriculture are the great vital needs of mankind. These wants are imperative, incessant, and enormous in amount, and they, therefore, afford the broadest and surest basis of values presented to any industry. Without food, life itself must end; and the demand for food is renewed every day of life. No changes of fashion, and no conditions of adversity can intermit or greatly alter this demand. The market for foods can never cease.

These wants are common to the whole race, and to every individual member of it, from the beggar to the richest monarch. Hence, the articles produced must be not only large in amount, but also, in a large part at least, they must be low in cost and price. To make them high priced would be to sentence half the race to starvation. It was the rise in the price of food which at last sent France into revolution. That long agony and outpour of blood broke forth with the march of the starving women of Paris upon the national assembly at Versailles, uttering the one terrible cry of "bread." Food may, in great emergencies, for a short time command high prices, but in the long run it must be cheap. Its abundance and cheapness are among the prime conditions of civilization.

Long continued hunger drives men into savagery, if it does not even fill them with the ferocity of wild beasts.

211. Agricultural products.—The products of agriculture are natural products—organic substances produced by the forces of growth. They are, therefore, but partly under the control of human skill, and can not be indefinitely multiplied and cheapened by the division of labor and the employment of machinery. This gives to them a certain steadiness of value, without which their low prices would still oftener entail ruin upon the producers.

The products of agriculture, taken as nature gives them, are heavy, bulky, and very perishable. To harvest and house them, and to store and transport them, often require more than double the labor and expense of their production. Huge barns and store-houses are demanded for their preservation; and their transportation to the distant markets, where their utilities can be enjoyed before they begin to deteriorate or decay, employs the majority of the carrying machinery of the world. Some of the heavier products, like hay, potatoes, and other root crops, will not pay the expense of the long transport from the farms to the distant railroad station, and thence to the more distant city, except in seasons of scarcity. In some of the new states of the West, Indian corn was, for some years, burnt as fuel, it being cheaper than coal, and the finer grains have been sold at five cents a bushel, and even given to those who chose to harvest them, because they would not pay for the transportation. The farmer is often compelled to see the transportation company, take the whole profits of his harvest, and leave him to suffer the loss of much of the expense of raising it. Wise and skillful farmers, distant from markets, give to their products the more concentrated form of meats, wool, or butter and cheese, and thus escape the serious tax of transportation.

212. The materials and forces of agriculture.—Agriculture uses, as the materials of its manufactures, the common

dust—that ground-up, pulverized debris of rocks and dead organisms which, in itself, men call dirt, but which, as soil, constitutes the mightiest machinery known to human arts. Through this soil, warmed with the sun and watered by the rain, work those mysterious vital forces which annually crowd its surface with living products, more varied in form, more wonderful in structure, and more immense in quantity, than all the products of all the mechanic arts and of all the manufacturing machinery of the world. In this mightiest of laboratories, these subtile forces, unwatched and unaided, transmute the most worthless of all materials—the earth’s foulest dirt—into the thickly packed herbage, the darkling forests, and the immense, life-sustaining harvests; and then another set of forces, by a second and higher transmutation, build from these the living flesh and tissues—the varied and beautiful forms—of sentient and self-moving animal tribes.

The real substances entering into the products of agriculture are the few chemical elements, minerals and gases, found in the soil and the air, which go to make up vegetable and animal tissues. The ground is but the reservoir and mixing place for these substances, and the substances themselves must often be sought in the form of fertilizers, in distant lands and places.

The common manufacturer and mechanic buy their materials in definite quantities, and measure accurately the amount which goes into each product. But the farmer must often work in the dark, both as to the kind and amount of materials required for a given harvest. His only alternative is to make and keep his soil as rich as experience tells him is required for the best results.

213. The extent of agriculture.—The wide extent of the agricultural industry—the innumerable hosts of its proprietors and laborers, spreading through all lands, and occupying the habitable surface of the globe,—is one of the most important of its economic features. All other industries are limited to easily ascertained bounds. The establishments in operation,

the capital employed, the number of laborers and the possible limits of production, are all written down in the tables of the statistician; but who can count up the world's productive energies, or tell, at any moment, the number or power of that world-engirthing host who till the soil, gather its harvests, and feed its millions of domesticated or protected animals? Of all the industries, agriculture alone claims the whole world as its workshop, the habitable globe as its market place, and mankind as its customers.

Statistics will best show the enormous extent and power of this great field of industry. In the United States, in 1870, out of 12,505,923 over ten years of age, engaged in all occupations, 5,922,471, or nearly one half of the whole number, were engaged in agriculture. In France, according to the census of 1872, 18,513,325, or over fifty-two per cent of the population, were counted as rural—that is, as agricultural population, 9,097,758 being land-owners living on their estates. In England, the great manufacturing nation, in 1871, only one person in twenty was an owner of land; in Scotland, one in twenty-five; and in Ireland, one in seventy-nine. Only one ninth of the population is engaged in agriculture; but in the great colonies of the British Empire, the agricultural industry assumes its necessary prominence and sway. England itself must be regarded as the small corner of the empire into which the great mass of its manufacturing industries have been crowded. In Germany, in 1875, sixty-two per cent of the population was given as rural population; and it was stated that three tenths of the people were directly supported by agricultural employments. Among the immense populations which crowd Southern and Eastern Asia, agriculture is the great staple employment, in a sense and to an extent unknown to the western nations.

The aggregates of agricultural wealth are equally instructive. The estimated cash value of the farms of the United States, in 1880, was \$10,197,096,776; of farm implements and

machinery, \$406,502,055, and of all kinds of live stock, \$1,500,464,609, giving a grand total of agricultural capital of \$12,104,063,440, or about one third of the entire accumulated wealth of the country.

The aggregate production of seven of the principal food crops, in 1880, was 2,885,853,071 bushels, valued at \$1,442,559,981. Of these the Indian corn was 1,717,434,543 bushels, the wheat was 498,549,868 bushels, and the oats, 417,885,380 bushels. Adding to these the crop of hay, tobacco, and cotton, and the value was carried up to the enormous total of \$2,131,051,859.

This very immensity of its fields and operations gives to agricultural values, taken through a series of years, a steadiness not known to the products of other industries. It is true, as heretofore stated, that glut of markets may more frequently occur in food supplies than in manufactured goods, for the reason that the supply is necessarily always so near the demand that a comparatively small over-production may over pass the need, and because that a surplus can not be so easily withdrawn from market and held in store. It is this, together with the immensity of its masses, and the universality and constancy of demand, that have made the products of agriculture favorite objects for speculators and trade gamblers.

214. Economic factors.—Nature's gifts.—In agriculture, as in all other branches of industry, the economic factors are nature's gifts, labor, and capital. On the nature and relation of these three, its economic problems depend.

The gifts of nature, in agriculture, are large in amount and peculiar in character. Nature not only furnishes the materials and forces for the work, but also produces the results. Nature works by the side of the man, and does by far the largest and most important part of the labor. The man employs, urges, and superintends nature. She supplies the materials, does the work, and determines the products; but the human hand must intervene, and, as the skill of the agriculturist

rises in rank, the products become more and more changed from their natural forms, and are increased in amount and value. The finest fruits, flowers, grains, and cattle, though natural products, are such as nature could never have produced unaided and undirected by man.

Land, soil, seed, air, sunshine, water, and the forces of growth, all come from nature, and, like all of her gifts, they are gratuitous and without economic value, till the hand of man has done its work upon them. But, though requiring the element of labor to turn their utilities into marketable values, the intelligent agriculturist will take careful note of the varieties of soil, situation, climate, and other conditions affecting the kind and amount of his harvests. In all industries, nature's favoring laws and conditions must be carefully studied and obeyed; but in agriculture, above all, nature must be read and followed. The elevation and slope of land, the presence in the soil, or in convenient proximity, of the fertile elements required, the convenience of markets, the cost of transportation, the rain-fall and other climatic phenomena, though gifts of nature, are economic conditions of vast importance, and can not be disregarded by the farmer, or by the economist, who studies this industry.

215. Farm labor.—The labor required in agriculture is, in large measure, of low grade in its skill. It is chiefly mere common labor, which any strong man can learn to do with but little practice, and which, like other cheap labor, can not give great value to its products. Even farm proprietors and managers are often men of little intelligence or skill; and their success corresponds.

To insure success, the farmer needs much knowledge and skill. It is unfortunate for the agriculture of this country that the opinion so widely prevails, throughout our farming communities, that no great degree of education or of intelligence is necessary to make a successful farmer. It is true that, by dint of hard work and close economy, many farmers

make a moderate living, and in the long run of the years accumulate some property; but with a wider intelligence, with the business tact necessary in all callings, their gains would be much larger, and their fortune much speedier and more ample. Nowhere among human employments is wide knowledge more needed, and nowhere will education pay better than in the pursuit of agriculture. Skill and intelligence win sixty and eighty bushels from the acre, where ignorance scarce gets twenty; and the soil which refuses to be subdued by unintelligent labor, yields the richest harvests to him who knows its constituents and understands its proper management.

Much of the labor of agriculture is performed by animals. This labor, though cheaper than human, is more costly than is generally supposed. The original cost of the animal, the expense of its care and keeping, unintermitted through all weathers and all seasons, the liability to injury and disease, and the short period of its working life, if taken into account, would show its costliness. But to all this must be added the wages of the driver, usually one to each two horses. Estimates, made in England, from actual cases, show that the annual cost of a single horse, in use on the farm, is forty-five pounds sterling, or \$218.70. This includes the cost, or annual wear, of harness and implements necessary to utilize the horse, the annual depreciation of the animal, and the wages of the driver. The feed of the horse, which, in this estimate, is counted at \$106 a year, may be something less in America; but the wages of a driver, which are put at \$155 the year, would be, here, including board, \$300 or more, or \$150 for each animal. Careful estimates, made from actual experiments, show that the steam-power used, in England, in many farm operations, costs scarcely more than one half as much as horse-power, for the same purposes.

Another peculiarity of farm labor is the slight extent to which the division of labor is applicable to its work. This organization of labor which, as we have seen, has lent to the

manufacturing arts much of their enormous increase of productiveness, scarcely finds place at all in agriculture. Farm operations are distributed through successive seasons of the year, and are not usually divisible into separate processes which may be assigned to different laborers, differing in strength and skill. The introduction of machinery, such as the mower, the reaper, and the thresher, has greatly assisted and lightened labor; but the fields must still be plowed, the seed planted, and the harvests gathered, each in its own season; and so the plowman must also serve as seed-sower and harvester. The wiser diversification of farming, and the introduction of farm manufactures, may, perhaps, help to economize labor by varying its demands, and by furnishing both steadier and more varied employments, but farm labor must forever remain largely unorganized labor.

216. Farm capital.—The capital required in agriculture is, necessarily, large in amount, in proportion to the labor employed. It consists chiefly of the following four classes: 1. The land and its appurtenances and improvements; 2. Live stock of all sorts; 3. Farm implements and machinery; 4. Seed and supplies, including money to pay wages and other running expenses.

The land is the farmer's chief instrument of production, and in this country constitutes too often the chief part of his capital. The true nature of land values, and the chief sources of productiveness in land, have already been noticed in Chapter IX. We are to study it here as a part of the capital of agriculture, in which we are chiefly concerned with the soil as the residence of certain plant-producing forces.

In England, the land-owning class is usually distinct from the farmers. The latter usually rent farms, and the land constitutes no part of their capital,—they pay an annual rent for its use. But in the United States, the farmer nearly always owns the land which he cultivates, and its value is to be counted as a part of his capital. The average American

farmer, engaged in mixed husbandry, has frequently from \$8,000 to \$10,000 invested in land, and not more than from \$1,500 to \$4,500 in capital of all other kinds. The English farmer, owning no land, is expected to have a working capital of twenty-five dollars to fifty dollars an acre, invested in teams, implements, cattle, and ready money. The difference is striking and important.

In Illinois, which may be taken as a fair illustration of the agricultural states of America, in 1870, out of a total of 202,803 farms, a little more than one fourth of all, were from twenty to fifty acres each; the largest number in one class were from 50 to 100 acres each. As it is customary to preserve, in the farms, the government subdivision of lands into 40, 80, 160, and 320 acre tracts, it is probable that the farms of the first class were mostly forty acre farms, and those of the second class, eighty acres each. There were 65,940 farms embracing 100 to 500 acres each, which would include the 160 and the 320 acre farms; and only 1,669 farms of over 500 acres each.

The cash value of the farms was \$920,506,304. The remaining agricultural capital, including farm implements and machinery and live stock, was only \$182,333,285, being less than one fifth of the value of the land. The average value of the land was about thirty-seven dollars the acre; the average working capital employed in its cultivation was but little above fourteen dollars per acre. It is often not more than five dollars an acre.

The native fertility of the soil goes but a little way in the production of successive crops; and this fertility is, in most lands, soon diminished, if not wholly exhausted. The land then becomes, as it were, the naked workshop, into which both materials and labor must be imported. The two chief agencies on which farming must rely for its harvests, is the labor spent in cultivation and the fertilizers employed. Most of the present fertility of the old and well cultivated farms is

the product of former labor and fertilization, and this will be speedily exhausted if not renewed by similar means. Fertility must, therefore, be counted as an artificial product, like the machine by which it is worked—as having, like that, cost labor, and needing, like that, to be renewed. The soil of England, some centuries ago, produced six bushels of wheat per acre; the same soil now, with more labor and with costly fertilizers, produces an average of thirty-two bushels, and not unfrequently over forty bushels.

The average yield of wheat, per acre, in the United States, in 1880, ranged from 4.8 bushels in South Carolina, to eighteen bushels in Connecticut; the average in Illinois, the chief wheat-growing state, being 16.7 bushels; and that of California, whose climate and soil are claimed to be peculiarly favorable to this cereal, being sixteen bushels to the acre. If now, in England, we count the six bushels as the product of the bare soil, unaided except by the necessary plowing and seed sowing, we may consider the remainder, twenty-six bushels, as the direct product of labor and fertilizers.

217. Extensive and intensive farming.—In Europe, agriculture is known as “extensive” and “intensive.” The former is that in which the amount of labor and fertilizers is moderate. Land, in this class, is used in large extent, and the reliance for profit is placed chiefly upon the fertility of the soil. In the latter, the “intensive cultivation,” the aim, as a French writer states it, is to use as little land and as much labor and fertilization as possible. The crops raised under this latter mode of cultivation are often of surprising amount. The “extensive” form of agriculture is found upon large farms, like those of England and the United States. The “intensive” is confined to small farms of five to ten or fifteen acres, chiefly found in France and Belgium. In the latter country, sixty tons of manure are not unfrequently applied to a single acre (“*Encyclopædia Britannica*”), and the yield is correspondingly liberal,—twelve to fifteen tons of potatoes are an ordinary crop for a single acre.

Intensive agriculture is almost unknown in the United States, except in what is called market gardening. "Land is cheap and labor dear." Such has usually been given as the explanation; but it ought to be understood that it is the labor and not the land that produces the paying crops. It is rather the lack of working capital, to be used in the payment of wages and fertilization, which has most frequently compelled the American farmer to keep to that exaggeration of the "extensive" system, which sometimes spreads the labor of a single man and team over eighty acres of land.

218. Capital in live stock.—Of the forms of agricultural capital, that which stands next to land in amount and importance is the live stock. This is of two kinds: the draft animals, and those kept for their flesh and products. The ox holds a place in both classes, as he may be fattened for beef if not wanted for work.

The draft animals—horses, mules, oxen, and rarely cows—are the indispensable power for driving much of the farm machinery. But, as they have already been discussed, they may be passed here without further remark.

Of the stock animals, the beef cattle and swine are kept for their flesh alone. Their economic use is twofold: 1. They consume the grasses and coarser grains, and turn them into valuable meats, much less bulky and more easily transported to market; 2. They furnish fertilizers for the land. Both of these sources of profit are too well known to need discussion. No maxim of modern agriculture is better established than that which affirms the necessity of animals for profitable farming. "No cattle," says the Flemish proverb, "no manure; no manure, no crop."

Cows and sheep are kept for their products—the milk and wool. The economic problem is the same in their case as that of the other stock mentioned, except that there is, in these animals, a double source of profit—their products and their flesh.

Stock-breeding, or the rearing of fine animals of pure blood, as it is called, has still another source of profit, as the animals raised have, in addition to their ordinary value as meat, milk, or wool producers, their use in improving the stock of the country.

As capital, the farm animals kept for feeding are both materials and machinery. As a living machine, they serve to transform the bulky grasses and grain, or roots, into compact and valuable meats; but the animal itself is the product sought, and, while growing, may be considered as material undergoing change. Costing more labor, care, and skill than crop-raising, the product, following the general laws of value, is worth more, in proportion to its mass, than the common field crops.

219. Machinery and supplies.—Of the other forms of agricultural capital—the implements and supplies—only the latter need be mentioned with comment. As the products of agriculture require, in general, the year for their ripening and harvesting—animals often requiring several years—the farmer and his hands will need means of support for that time. As different crops come in at different seasons, this support need not be entire; but to pay wages, buy provisions, and keep machinery in repair, will necessarily cost large expenditures, and these must enter into the capital provided. The custom of many farmers, of getting credit at the merchant's for these supplies, is only another way of borrowing this part of their necessary capital; and the borrowing is, usually, at a high interest, since it not only gives, commonly, a higher price for goods, but often puts the farmer under obligation to sell his crop as soon as harvested, without regard to the condition of the market.

220. The economy of forces.—The profits of agriculture, so far as production is concerned, come from the economy of forces. In the light of a true science, the processes of farming are force-transforming and force-storing processes. In raising a crop of grass, a part of the forces of the soil and

atmosphere are stored up in the vegetable tissues of the grass. In feeding this grass to cows, some of the substance and much of the forces pass into the flesh of the animal, or are secreted into milk; the remainder is excreted to return as a fertilizer to the soil. In the beef animal and swine, they are transformed into flesh and fat, in which forms they have high utility for man as stored-up food or force for his body. If to the soil we add, in cultivation, the fertilizers and the labor of man and animals, we look to see these returned to us in a larger harvest of the force-storing crops. There can be no profit unless the forces produced are more valuable in amount and kind than those expended in producing the crops. All forces not used are wasted. When the force produced is not equal in amount and value to that expended, there is a loss.

221. Economic mistakes.—The common economic mistakes in American agriculture, judged from the stand-point of the conservation of forces, are:

1. *The waste of land*—the attempted cultivation of large farms with wholly inadequate forces. The productive power of the soil is but partially developed, and the working force is largely wasted by an attempt to spread it over too large a surface. The average corn crop of Illinois, in 1880, was only 27.2 bushels to the acre. The constant average of well-worked farms was sixty to seventy bushels the acre, or more than twice the general average. If a farmer uses one hundred acres to produce the crop which he might as easily get from fifty, he not only loses the use of fifty acres, on which he must pay taxes, and sacrifice interest, but he wastes time and working force in traveling over the double area. In addition to this loss, the larger area must be kept fenced and free from weeds, and must be provided with roads, and kept under supervision.

2. *The waste of animal forces.*—If the farmer would take into account the cost of creating and maintaining the animal force which his teams exert, as shown in section 219, in this

chapter, he would easily see how large a loss is possible to him from the misapplication or non-use of this force. The loss of power by the use of poor implements, the draft of which is needlessly heavy; the loss by the bad roads, which prevent the carrying of full loads, or needlessly exhaust the strength of the team; the loss by the long hours and many days of idleness, during which the strength of the team goes to waste unused; the loss by bad feeding, either starving or over-feeding, by which the animal is not kept up to its full strength, or is partly disabled by its own fat; and the loss by bad care, bad management, and bad driving; all these diminish the profits of the ordinary farm to an extent little suspected by the average farmer.

3. *The want and waste of capital.*—The absurd notion that the farmer needs little if any capital besides his farm, his teams, and tools, has cost many a farmer dearly. Many holding this view expend every little surplus they gain in the purchase of more land, or put it at interest, as if not needed on the farm. The experience of English farmers has proved that a large working capital is one of the most necessary conditions of success; and the wiser English land-owners will not let their lands to a farmer who can not show that he has a capital equal to twenty-five dollars or thirty dollars for each acre of the land he proposes to farm. The working capital, on an American farm, ought to be equal, ordinarily, to the value of the land itself. This capital, wisely used in labor, in fertilization, in animal force, and in marketing the products, would make the one farm worth two run in the ordinary way.

4. *The waste by poor or insufficient stock.*—The feeding of animals of inferior stock often costs as much as those of better breeds. The animal, as we have seen, is a machine to manufacture more valuable products out of the vegetable productions of the farm. The animal that will consume most, and will produce from its food the largest amount and most valuable quality of products, is the most profitable. This is as

evident as it is that the loom which will produce the most and the best cloth with a given quantity of wool and work, is the most valuable. The farm inadequately stocked will be obliged to buy fertilizers from abroad, and will also be compelled to send its products to market in the most bulky forms and at the largest expense for transportation.

5. *The waste by improper rotation.*—It is a common mistake, in American farming, to confine its cultivation to a few of the common grains. The common rotation of crops, in some parts of the country, is corn, oats, and grass; in others, corn, wheat, and grass, with potatoes, as a limited crop, occupying small fields. Rye or barley are sometimes substituted for the wheat or the oats. Without pausing here on the question of the proper rotation of crops, which belongs rather to agricultural than to economic science, it may be noted that the failure to diversify agriculture, by a greater variety of cultures, fails: 1. To bring all the powers of the several kinds of soil into use; 2. To give the variety and continuity of labor desirable; 3. It leaves the farmer dependent on a few crops, with their liability to failures; 4. And cuts him off from that wider mastery of his art, which, making him familiar with many cultures, gives him choice of all, and almost certainly would give him greater expertness in each.

The objection will be made that men usually do best to confine their attention to a single business or a single branch of it even. This is true where large experience is required for the mastery of the one business, and when the attention required by the one branch forbids giving attention to the others. But it is easy to the farmer to select, out of the wide range of cultures possible to his soil and situation, those which shall be adapted to his lands, to his markets, to his working forces, and to each other. And all this is consistent with his giving his attention chiefly to one branch of farming, as sheep husbandry, cattle-raising, or grain culture. On great estates of several hundred acres, the plantation system of devoting the whole to

some one culture can be profitably introduced. The extent of the enterprise permits the economies of great manufactories to be used, and the losses on some points will be more than covered by the profits on others; but in ordinary farming the profits must come from several sources, and many economies must be practiced to secure the best results.

The relations of agriculture, as one of the largest groups of the world's industries, (1) to the world's populations, (2) to the other great classes of industries, (3) to the markets and (4) to governments, involve economic questions of the deepest importance. The full discussion of these questions would demand several chapters. They are indicated here only to show the scope which must be given to a full discussion of the field of rural or agricultural economy.

The importance of the food supply to national safety and independence, and to the peace of the people and the progress of civilization, must forever give to agriculture a prominent place among the industries, in the esteem of statesmen, and in the care of all wise governments.

CHAPTER XX.

EXCHANGE,—TRADE AND TRANSPORTATION.

222. Tabular view.—The following synoptical view will aid us in the clearer discussion of this branch of economic science.

TRANSPORTATION AND TRADE.	{	Nature and benefits of exchange.		
		Transportation	{	Labor.
				Capital.
				Profits.
				Risk and insurance.
				Markets.....
				Market prices.
				Cost of transportation.
		Trade or exchange.	{	Classes. {
				Barter—goods for goods.
				Hire—services for goods.
				Sale—goods for price.
				Foreign trade. {
				Its peculiarities.
				Its benefits.
				Domestic trade.
				Balance of trade.
				Medium—money.

223. Needs and benefits of exchange.—The life of man is confined mostly to one place. The satisfactions of his wants come from the round globe. Sitting in his own house, or working in shop or field, he asks from all lands and all climes, the comforts of his life and the materials for his arts. Few of the articles which appear upon his table or person, which furnish his house or are used in his work, come from his own immediate labor. From his neighbors to the unknown dwellers in the most distant lands, he asks from myriads their

products; and as he expects nothing for the mere asking, he must send to all his own products or their values in return.

Out of this localization of man's life, and this wide stretch of his needs, comes the necessity of the third great branch or family of industries—those of transportation and trade—whose business is the carrying and exchange of goods. These industries might properly enough be called the “errand doing” of the world. How many and distant and difficult the errands which man needs to have done! How vast the labor and skill and care required to take the productions of any one clime or land and distribute them to every other land, and to bring back in exchange the products of all the others!

The importance of these industries to the world can not be overestimated. Not only the comforts of life to the individual, but the very existence of society in its higher forms, depends on the ability of masses of population to draw their supplies from distant sources. Without this, cities would be impossible, and civilization must remain forever in its infancy. If man could not exchange his products with others, the industries would be confined to the poor and meager arts of savage life. The great and fruitful division of labors would be unknown; and wealth and national greatness could never exist. Even that larger form of freedom, coming from the power which his arts and his wealth give to man, must have remained an unattainable if not an unknown good. The boasted natural liberty of the savage is low in its purposes, as it is weak in its powers. It is hemmed in by poverty of resources, and hindered by savage dangers. Art and wealth give to freedom its wings, and open before it the fields of a larger, safer, and sublimer life. The industry which breaks for man the barriers of his products, opens for him the world as his play-ground.

The great boon of trade, to the individual man, lies in the fact that, with its aid he may labor where he lives, and yet, through a line of exchanges, may effect, in a hundred different places and distant lands, the production he desires. “The

miner who, two thousand feet under ground, in the heart of the Comstock, is digging out silver ore, is, in effect, by virtue of a thousand exchanges, harvesting crops in valleys five thousand feet nearer the earth's center; chasing the whale through Arctic ice-fields; plucking tobacco leaves in Virginia; picking coffee berries in Honduras; cutting sugar-cane in Hawaiian Islands; gathering cotton in Georgia, or weaving it in Manchester or Lowell; making quaint wooden toys for his children in the Hartz mountains; or plucking, amid the green and gold of Los Angeles orchards, the oranges which, when his shift is relieved, he will take home to his sick wife. The wages which he receives on Saturday night, at the mouth of the shaft, what are they but the certificates to all the world that he has done these things—the primary exchanges in the long series which transmutes his labor into the things he has really been laboring for?”—Henry George, in “Progress and Poverty.”

224. Two elements in exchange.—It is evident that this third branch of industries includes two chief elements:

1. That of the exchange of goods.
2. That of their change of place.

Trade and transportation are but separate parts of the same industry. In all exchanges of property, except that of land and its appurtenances, the one commonly includes or presupposes the other. We buy abroad what we wish to possess or enjoy at home. Even in the barter between neighbors, there must be a transportation of the goods bartered; and not uncommonly the carrying and delivery of the goods is a part of the bargain. The corner grocer gets our custom because he brings to a convenient neighborhood the supplies we need. We pay him both for goods and transportation.

But exchange and transportation are separable in fact, and they imply different conditions. The exchange of goods involves the measurement and comparison of the values exchanged. The transportation includes not only the labor of

removal from the place of production, to that of final use and consumption, but the protection of the goods on the road, and their preservation and storage.

The risks attending the business are also double. They include the hazards of transportation,—of loss, injury, and destruction of goods in store or transit; and also the chances of finding buyers at the required prices.

225. Labor in exchange.—Human labor, which enters as the chief factor in all industries, holds, in transportation and trade, a place of peculiar importance from the great variety and value of skill required. In the earlier ages, commerce was carried on by caravans, and goods were transported on the backs of camels, horses, and other animals, or even on the backs of men. The labor was large in amount, but usually low in grade. Now the steamship and railroad train are employed on the larger routes, and the sail vessel and heavy wagons on the less. Much coarse and cheap labor, as of porters, stevedores, and teamsters is still required, but an unusual proportion of skilled men, as of captains and officers of vessels, engineers, conductors, clerks, and business agents, is employed; and, generally, these must be men of trust as well as of skill. To this must be added the vast range and variety of business ability required by merchants, brokers, bankers, and the managers of lines of transportation.

The number of persons engaged in trade and transportation, in the United States, in 1870, was 1,191,238, or nearly three-sevenths as many as were engaged in all the manufactures of all kinds in this country. Besides these, it must be recollected, that much of the costly transportation of the heavy products of the farms, is made by the farmers themselves. Many manufacturers also transport their products and materials to and from the nearest markets or place of shipment. These counted in would enormously swell the amount and cost of the work of transportation.

The average of business intelligence and skill required in

trade and transportation is higher than that employed in any other of the branches of industry. The "railroad kings," the "merchant princes," and the "money kings," or bankers, all of whom belong to this great branch of the world's industries, are, as these titles,—given them less by popular love than by popular fear of their power,—indicate, the acknowledged leaders in the industrial world. Their subordinates are necessarily, to a large extent, also men of marked business ability and power. The keenest encounters of human minds take place in the exchange of great masses of value, and in spite of their keen and practiced skill, and their frequently enormous profits, more men fail in this branch of industry than in any other. The risks of trade are incessant and immense.

226. Capital in Exchange.—The capital of trade is also peculiar in character. Instead of being invested as in manufactures, in raw materials, machinery, and supplies, it may in general be divided into two great classes: 1. That invested in the machinery of traffic, as ships, cars, railroads, vehicles, store-houses, and furniture; and 2. That invested in the goods to be transported and exchanged. These two classes of capital frequently belong to different owners, but both are to be counted in the capital of trade, and both seek their natural profits or returns in the enhanced value of the articles carried and exchanged.

The capital invested in the machinery of transportation, however enormous in its gigantic aggregates, is, perhaps, not more costly in proportion to the work done by it than is that of the machinery of the manufacturer; and it is less, in this respect, than that formerly invested in teams and wagons for freighting. The steam-ship can carry cheaper than the sail vessel, and the railroad train than the horses and wagons, especially when large quantities and long distances are in question. But ships and railroad trains encounter great risks, and their average period of service is small.

The capital employed in buying goods to sell again is neces-

sarily large; but, as it anticipates quick returns from speedy sales of a large part of the goods, it is supplied or supplemented by credit, and may thus fall far short of the market value of the merchandise bought and sold. A merchant, with a capital of \$10,000, may do an annual business of \$50,000; but he necessarily assumes the risk of all the capital used. This risk includes all dangers to the goods themselves, and also the hazards of sale, increased largely by the competition which the very profits of his business bring into the field against him.

There are obvious differences of wide extent between the different classes of commodities, as also between the different branches of transportation. They vary in risk, in the skill required, and in the profits gained. But these are questions which belong to private economy rather than to economic science.

227. Profits in Exchange.—The natural profits of trade and transportation arise, like those of agriculture and manufactures, from an actual increase of values produced by an expenditure of labor and capital. It is a popular error that no values are created by transportation. The bushel of wheat remains a bushel of wheat after being carried across the ocean. It weighs no more after the transit than it did when thrashed, and will make no more loaves of bread. No goods change in quantity or quality by transportation. Whence, then, the change in value?

The answer is easy. Let it be remembered that value does not consist solely in utility or the power to satisfy want. It includes, also, the labor expended by its producer and saved to its purchaser. And it is not enough that the useful thing shall exist; it must be brought within the reach of those who need it. The coal-miner does not make the coal he digs; he merely fetches it to the surface where it is wanted. The fisherman finds his fish already grown; he simply catches them and brings them to market. The creation of values in both of these cases

comes solely from the change of place effected by the labor. In the same way the transportation of wheat, from Chicago to Liverpool, takes it from a place where it was not wanted, because it was a surplus, to the place where it is needed, and this transportation gives it, therefore, a value which it did not have before.

The merchant who sells wheat and other goods to the consumers, completes the work of the transporter. He collects the various wares in which he deals, displays them at a convenient place for his customers, and waits there to furnish the goods at their convenience. He performs necessary labor and saves such labor to the purchasers; hence, he, in part, produces the values which he sells.

In trade and transportation, much more frequently than in the other branches of industry, the monopoly power exists, and the trader and transporter are left to make their own prices, little checked by competition. The occasional abuse of this power by traders, and especially by the great transportation companies, has, doubtless, been the source of much of the odium which has been cast upon them in the popular esteem. That the profits of these branches of industry are less in amount and in security than is generally supposed, is sufficiently proved by the frequent and numerous failures registered among them. The splendid fortunes achieved, in rare instances, by men of peculiar aptitudes for trades, blind the eyes to the more common failures. An old cashier of a Boston bank said, that in reviewing the names of merchants on the books of the bank, he found only two per cent who had been finally successful: all the others had failed in business.

228. Risks in Exchange.—Besides the labor and capital employed in transportation and trade, there is another source of profit in the risk involved. Risk is the danger of loss from any source, and it is measured by the percentage of actual losses ascertained by careful observation. If it is found, in any

business, that one attempt out of every hundred, in that business, proves unsuccessful, the risk is one per cent. It is evident that the cost of the failures must be charged as a part of the true cost of the successes. If out of every hundred cargoes shipped, only ninety-nine come through in safety, the cost of bringing the ninety-nine is the shipping the hundred. The hundred shipped may be regarded as the cost of the ninety-nine saved.

As already stated, trade has two classes of risks: the risks of transportation, and the risks of sale. To meet these risks, the trader must add something to the price of every article which he sells. If this additional charge exactly covered and made good the losses, no profit would ensue from it; but as the risks are uncertain, the trader estimates them at their highest, and then seeks, by care, to reduce them to their lowest limit, and thus often secures a profit where he might have met a loss.

229. Insurance.—Out of risks of various kinds has grown the business of insurance. Insurance trades on risks. The insurer assumes the risks to a stipulated amount, and relieves the insured to that amount, for a sum of money which he calculates will cover the risks, and leave him a profit. If the average loss of cargoes, by sailing vessels, is found to be one in a hundred, then he may insure a hundred cargoes for the price of one plus the profit required to cover labor and capital employed. If by carefully excluding unseaworthy vessels from insurance, and by insisting on precautions which may help to prevent loss, the insurer loses only one risk out of two hundred, he may, evidently, lessen his charges or increase his profits.

Insurance has now been extended to losses by fires, losses of health and of life, and to the dangers in travel and in other situations in life. In trade, the insurance can cover only the risks by transportation, and in store. The chances of sale must still be taken by the trader himself, and he must make

the profits on goods sold cover the losses on goods found unsalable.

The economic effect of insurance is to distribute the losses upon all the parties insured. The ninety-nine saved cargoes pay for the one lost. This has suggested the plan of mutual insurance, in which the parties insured agree to share the losses occurring among them. This, doubtless, would be the cheapest and most equitable form of insurance, if it could be carried out on a scale sufficiently large, and be conducted by an agent sufficiently expert and trustworthy.

230. Markets.—The business of exchange involves the existence of markets. The very nature of modern trade, in its widest meaning, demands great outlets or markets for goods; and modern agriculture and manufactures are equally involved in the question of markets, in the broader sense of the term. The one incessant and always growing need of the industries is the need of markets; and from no source comes so large a danger and difficulty to the great manufacturing nations as in the loss, or fluctuations even, of their accustomed markets.

In earlier times, markets were places where producers, at stated times, brought their products and exposed them for sale. The word is still used in this restricted sense, in our cities, to designate the places where meats and vegetables are offered for sale at certain hours or days. Gradually the word outgrew its first meaning, and came to imply the general offer and demand for goods of any given sort. Thus, we speak of the market for coal or for breadstuffs, meaning the general demand and offer of these goods. Economic science employs the term in this broad general sense, in its discussions of the laws of demand and supply. There is another use of the word in which the notion of place is restored, but in an enlarged sense; as when we speak of the Liverpool, the London, or the New York markets, or of the English, the French, and the American markets, meaning the offer and demand for goods in the cities and countries named.

231. Three classes of markets.—In trade and transportation, three classes of markets need to be considered :

1. *Primary markets*, where the producers sell their products.
2. *Principal markets*, to which the great mass, or the surplus, of products must flow.
3. The *final markets*, where the actual consumers find their supplies.

Take, for example, the wheat crop ; the primary markets are the stations where the farmers sell and deliver their wheat. The principal wheat markets are the great centers of distribution, such as New York and Liverpool, to which all surplus, after the supply of the home and local demand, must go. The final wheat markets are the innumerable places of manufacture and retail to which the wheat is distributed to be ground into flour, or sold to its consumers.

In tracing the history of the wheat marketed, from the field to the ovens and tables, we shall see it first carted to the nearest town or station, and sold to the wheat buyers, the farmer reserving enough for his own use as food and seed. From the first buyers it goes forward, through, perhaps, other buyers, to the great central or distributing market, leaving by the way enough to meet local demands. To this central or principal market, the millers and retailers send to purchase the supplies for their several localities. Through these the wheat, or flour manufactured from it, reaches at last the consumers.

232. Market prices.—Market prices will be ruled by the principal or central markets. Take Liverpool, for example, as the principal market for American wheat, because it is the market to which most of our surplus is sent ; the quotations of prices at Liverpool control, in large measure, the prices at New York, Chicago, and so on to the wheat buyer at the little railroad station, a thousand miles away. It is true that only a small part of the wheat crop of the United States, say 50,000,000 out of 400,000,000 of bushels, seeks the English market ; yet, as the surplus must seek that market, the prices

offered for that surplus will, by a natural law, control the general prices of all. The Liverpool prices of wheat are based upon calculations of probable supplies from all sources, home and foreign,—upon the prospects of crops in England, in Turkey, Russia, the United States, and all other countries from which England is accustomed to draw its supplies. This price once established, becomes the ruling price for New York and Chicago, modified by the expenses of transportation, and by any prospects of change, known to the dealers in these latter cities.

The prices in Liverpool and New York must also control the retail prices of all who draw their supplies from these centers. Thus, the principal market controls the prices of all primary and final markets. Local influences, competition, speculation, unexpected supplies or demands, and variations in cost, or in means of transportation, may produce many fluctuations above or below the price of the principal market, but the tendency is always to settle back to that price. The central or principal market may, indeed, be regarded as the real market; the others are but its outpost agencies of purchase and sale.

233. Who pays the transportation?—Who pays the transportation? This is one of the questions asked of the economist, and which this division of markets helps to answer. It is generally supposed that all expenses reappear as a part of the cost, and are paid in the end by the final purchaser, or consumer. Such, indeed, is the general law when the labor expended by the producer is equaled by the labor saved the purchaser. The price established in the principal market is supposed to measure the cost of the cheapest supplies. The producer, or his agents, must deliver the goods in market at that price or fail to sell. If this price covers the cost of production and transportation, then that cost is carried forward to the consumer; but if it falls short of the cost, then the producer must bear the loss. If, for example, wheat is selling in Liverpool at one dollar and a half the bushel, the American

dealer must deliver his wheat there at that price, if he wishes to sell it there. He pays his transportation out of the price he gets, whether he gains or loses by it.

The retailer who buys goods in the principal markets, transports them to his place of sale and adds the cost to the price charged the consumer.

The law of cost of transportation may then be stated as follows: The producer delivers the goods in the principal market; the consumer takes them from the principal market. The line of dealers between the producer and the principal market on the one side, and between the principal market and the consumer on the other, are to be counted only as the agents of the producer and the consumer. If the principal market price covers the full cost of transportation, as well as of production, then this cost is transferred to the side of the consumer.

CHAPTER XXI.

TRADE.

234. Forms of trade.—Trade, in its fullest sense, is the exchange of values. The possible forms of exchange, fully stated, are as follows:

1. Goods for goods, or barter.
2. Goods for money, or sale.
3. Money for goods, or purchase.
4. Use for money, or leasing, letting, or giving for rent.
5. Money for use, renting, or taking for rent.
6. Use for use, exchange of uses.
7. Service for goods or money, or hiring out.
8. Money or goods for service, hiring, or employing.
9. Service for service, or exchange of services.

The last three are not usually known as trade, but may come under that term in its largest sense of exchange for advantage or profit.

All these forms of exchange may be reduced to three principal classes:

1. *Barter*, or the exchange of goods for goods, as when the farmer exchanges his butter or hay for clothes or groceries, or trades horses with his neighbor.

2. *Sale*, or the exchange of goods for a price, usually in money. Every sale is also a purchase, on the other side.

3. *Hire*, or the exchange of use or service for goods, wages, or rent.

In the end, all exchanges are exchanges of goods or services.

Exchange for money is only one link in the chain. Money is desired, in this case, only as a convenient means of effecting further exchanges.

235. Comparison of values in trade.—All trade exchanges involve a comparison of the values exchanged in barter. This comparison is of that of a present estimate made by the two parties to the exchange. When the comparison is of the prices fixed upon the articles exchanged, the barter becomes a double sale.

The comparison, as shown in Chapter V, involves four desires, since each article is supposed to affect the desires of both parties; and four utilities, as each of the articles has a separate utility for each of the parties to the trade.

In sales, both parties estimate in money the value of the article offered, and, as the money is supposed to have the same value to both parties, the comparison becomes simpler and easier. But, in truth, each one compares his need of money, or of other things which money might buy, with his need of the article offered for sale, so that the four desires and utilities are always in question.

Both parties to an exchange will be benefited if the utility which each one gains is larger to him than the utility which he parts with. All fair exchanges, intelligently made, will give a balance of profit to each trader. Mistakes or misrepresentations made by either party may destroy this just condition of mutual gains, and make the gain of the one the loss of the other; but the expectation of a real gain by the exchange is the motive which impels both parties to trade.

It is frequently assumed that simple exchange can create no values, and that, therefore, every exchange, except of things precisely equal in worth, must entail a loss upon one of the parties. It is true that two horses, after being exchanged, are, to the general market, of precisely the same value which they had before the trade. Nothing has been added to the market value of either by the exchange. But if one was

desired because he was a racer, and the other because he was a good family nag, the trade may have given to each owner a larger amount of value than he let go. All values, it must be remembered, are, in the last analysis, individual and personal, because all desires are so. The market value is but a general estimate of value based upon the supposed desires of all the persons who may want the article valued. It is but the estimated average of actual values. Thus, the market value of any horse is the estimated average of the prices which the persons desiring such a horse will give. It is well known that the horse will not be of precisely the same value to any two men; but the seller seeks to find what the average purchaser will be likely to give.

Goods bought for sale and goods bought for use will have different estimates. A man purchasing for use, asks after the actual value to himself; but purchasing for sale, he asks after the market value or the price which the average buyer, in his market, will probably give him. The purchaser for use usually accepts market value as actual value.

236. Hiring and rent.—Hiring differs from trade and barter in the fact that the two latter transfer ownership, while the former transfers only temporary use.

Hiring includes both property and persons. Property is hired for its uses. Persons are hired for their labor and services. The former is usually called renting, letting, or leasing; the latter is called hiring or employing.

The hiring of houses and lands is a temporary purchase of all property rights, excepting the right of sale, and of alteration. All the utilities of the property belong, for the time, to the lessee or person renting, and all the profits he can make out of the houses or lands, while holding them, are accounted as his own. The owner forgoes the use and profit, and receives the rent in lieu thereof. The renter is saved the labor and expense of building, or from buying a house and land for himself, and pays his rent in place of the year's saving.

In the rent of houses, whether for dwelling or for business, the renter pays his money in exchange for a valuable use, a use which satisfies a want and saves a labor; and which also, in general, contributes to a new value, in the labor force renewed, or in the goods produced. The owner parts with a value in exchange, since he loses the use and also the value used up in the wear and deterioration of the house.

The money paid for the rent of farm lands is exchanged for the use of these lands as an instrument of production. The owner receives the money rent in place of the products which the land would have brought him, less the expense of working it.

The renting of land differs from that of houses in the fact that the land yields its use only on condition of a large expenditure of labor and capital. The profits are in part from the land; but in still larger part they are usually from the labor and capital expended in the cultivation. The rent is counted as coming out of the production, and in the so-called metayer system in France, and frequently in this country, is a stipulated share of the products.

237. Domestic and foreign trade.—Trade has been commonly divided into domestic and foreign. Domestic trade is between the citizens of the same country; foreign trade takes place between citizens of different countries. The economic differences between the two are chiefly the following:

1. *In the goods exchanged.*—Commonly, the goods imported from foreign lands differ in kind or quality from those produced at home. Such goods do not come into direct competition with home products. This remains true in such productions as are peculiar to the foreign climate; but the progress of modern manufactures has brought a large list of common products into direct competition between the great manufacturing nations. In this competition, the questions of differences in civilization, in governments, and in the cost of labor and capital among the two peoples are involved. The people which

can, at any given place, furnish the best and cheapest goods of a given variety, will gain the market for such goods.

2. *In the cost of transportation.*—Domestic products are usually exchanged with less transportation and risks than foreign goods, and, therefore, with less addition to the original cost of production. This difference is also disappearing with the improvement in steam, land and ocean carriage, and with the aid of the telegraph.

3. *In taxes and tariffs imposed.*—Domestic goods pay the ordinary taxes of the country on capital, income, or products. Imported goods pay, if taxed at all, the tariff or import duties imposed for revenue or for protection of home manufactures.

4. *In the means of exchange.*—Domestic goods are exchanged chiefly by the aid of money, or its representatives; but there is no international money. Foreign trade is, therefore, a sort of barter. All goods imported must finally be paid for in goods exported. Even gold and silver, when paid to foreign countries, is sent as bullion, or merchandise, and not as money. Bills of exchange—drafts drawn on foreign debtors—serve, to some extent, as an international currency, and aid to effect exchanges; but these bills represent goods already sent.

All of these differences are in themselves hinderances to foreign trade. Their weight may fall upon either nation, as circumstances determine, or may be divided between them.

The advantages of foreign trade are many, and are both economic and social. It opens markets, stimulates production, diffuses improvements in the arts, enlarges the stores of knowledge, advances civilization, and promotes the harmony of peoples and the peace of the world.

238. Wholesale and retail trade.—Trade is classified also as wholesale and retail; and each of these are, in practice, subdivided according to the goods dealt in. Wholesale trade deals with goods in bulk, or in the original packages of the producers. It represents the principal or central markets,

and collects goods from the producers, to distribute them to the retail dealers who represent the final markets. Its customers are the retail traders.

Wholesale trade requires skill and intelligence of a high character. There is needed not only a knowledge of the widely scattered sources of production, and of the means and cost of such production, but also an equally wide knowledge of markets, and of the means of distribution. It requires, too, wide and difficult calculations of the probable supplies and demands in near or remote markets. There are also needed, to successfully meet the many emergencies of trade, promptness, decision, courage, and energy of the highest character. Many enter into this trade without all these qualifications, and sometimes succeed, for a time, by happy chances, but their final failures are as disastrous to the public as to themselves.

A large command of capital is also required in the wholesale trade. To purchase and hold goods in large quantities, to own or control means of transportation, and to provide the necessary store-houses, imply immense outlays.

Retail trade sells goods in small quantities, and to the individual consumers. Its mission is to bring goods of all kinds to the vicinity where they are wanted for consumption, and to hold them there to await the needs of customers. The source of its true profits has already been shown to be in the labor and capital necessarily expended by the trader and saved to the consumer.

The skill required in retail trade is less than that demanded by the wholesale trader, but is still large as compared with many employments. The skill needed to manage a small retail shop, confined to the sale of a few common articles, may, indeed, be speedily acquired by any one of the requisite education; but it is evident that as the range and amount of goods to be kept increases, the problem rapidly grows difficult; and the frequent failures are sufficient proof of the ability and intelligence needed for success.

239. Is trade a tax?—It is held by many that the profit of the trader, or middle-man, is a tax, necessary, perhaps, but still a tax, upon the productive industries of the world. “His profit is a tax upon both (producer and consumer), which should be reduced to a minimum, for he adds nothing to the real wealth of society.”—Thompson.

An excess of traders or middlemen is, doubtless, an evil, as an excess of laborers in any other department would also be. The increase of traders does not increase trade unless buyers choose to increase their purchases. Nor does the increase of traders necessarily increase the profits charged upon goods. It tends, rather, by competition, to diminish profits.

It is true that traders sometimes take advantage of their opportunities and charge larger profits than they are entitled to, but the absence of rival traders would not necessarily make them more honest or more just. The cure of this, as of so many other evils, must be sought in an increase of popular intelligence. It is one of the many cases in which people pay more for their ignorance than it would have cost to gain knowledge. The real utility of the trader's services, and their wealth-producing power have already been sufficiently proved. No community would long consent to do without such service; nor could the service be done by any one without a costly expenditure of capital and labor.

240. Balance of trade defined.—Connected with the subject of foreign trade, one meets the question of the “balance of trade.” By this phrase is meant the difference in amount or value, between the goods imported and those exported. The balance of trade is said to be in our favor when we sell more than we buy; and against us when we buy more than we sell. For some years our exports from this country have been much larger than our imports, and this has been thought so plain a proof of national prosperity that even the Presidents' messages have mentioned it with public congratulations.

The popular feeling in regard to the balance of trade is based upon two distinct notions: 1. That selling is a source of income, and that buying marks expenditures; and, hence, that we are growing richer as a people when we sell more than we buy. 2. That when we send to foreign peoples more goods than they send to us, the balance in our favor must be paid in gold and silver, and thus increase our money and capital. President Hayes, in his message of 1879, said: "The increasing foreign demand for our manufactures and agricultural products has caused a large balance of trade in our favor, which has been paid in gold, from the 1st of July last to November 15, to the amount of about \$59,000,000." This statement is made in the midst of his congratulations on the national prosperity, of which he, in common with many others, thought this one of the proofs. This popular opinion is, perhaps, a survival of the old belief that wealth consists in money, a belief which led the English Parliament, in the times of the Tudors, to prohibit the exportation of gold from the country on pain of death.

241. Is the balance of trade an advantage?—To judge rightly of this question, let it be reduced to a case of the balance of trade between individuals. All trade, foreign or domestic, is individual; for nations do not make exchanges. In fair exchanges, as we have seen, both parties are benefited; and this is as true in trade across the seas as across the street. When foreign trade ceases to be profitable to our merchants, they will, doubtless, abandon it; and if it is profitable to them, it is difficult to see why it is not also profitable to the country.

But let us take the simplest case, of a single cargo. If an American trader sends to England a cargo of wheat, worth, in New York, \$5,000, and sells it in Liverpool for cloth worth \$6,000, which he brings home, the balance of trade is said to be against him, since he seems to have sold less than he has bought. But the cloth bought in Liverpool for \$6,000 may be worth, in New York, \$7,000. So the balance of

trade, which seemed \$1,000 against him, was in his favor to the amount of \$2,000, less the cost of freight and insurance.

Let us suppose that in place of taking cloth in full payment, he takes only \$2,000 in cloth and the \$4,000 is paid him in gold. The balance of trade is now pronounced to be in his favor, because he sells more than he buys; but it is evident that he makes less than before; and if the profit on the wheat and cloth is less than the expenses of the shipment, he really suffers loss. The gold itself is nothing but merchandise, as between different countries, and it is merchandise on which there is usually no profit.

242. Profit and loss lie in use.—If, through failure in markets, the shipments turn out to be losses in either direction, the parties making the shipments are losers, whether the balance of trade is in their favor or against them. If goods sent abroad are sold for less than cost, the more we export the worse for us; and if goods imported are sold or employed at a profit, the greater the importations the better. Even if the goods imported are merely luxuries, which are consumed without profit, the difficulty is not with the balance of trade, but with the useless consumption of luxuries. Had these luxuries been home productions, their consumption would have been equally the destruction of so much value; though in this case it is true the money or goods given in exchange would have remained in the country.

It may be urged that the goods imported gave employment to foreign labor in place of home labor. This is true; but it must be remembered that the goods exported gave to home labor employment which it would have lacked without the foreign market; for the exported goods, it is to be presumed, were in excess of the demands of the home market. And the objection lies not alone against a balance of imports, but against all imports which might have been produced at home.

By consequence, it lies also against all exports; for since in foreign trade all goods must be paid in goods or gold,

without imports there can be no exports. It may be pleasant to take our pay in gold, but it is certainly more economical to import goods on which there is a profit. The cloth which was \$6,000 in Liverpool, but changed to \$7,000 in New York, was a better bargain than the gold which remained worth only \$6,000 after its costly transportation across the Atlantic.

If it still be urged that a man who buys more than he sells is getting poorer, the reply must be, it depends upon the use he makes of his purchases. If he sells them to his neighbors at a profit, or uses them to improve his property, then it is not true that his purchases are making him poorer. The case supposed is this, that it is only his foreign purchases and sales that are in question, his sales to his neighbors not belonging to foreign trade.

CHAPTER XXII.

MONEY.

243. Synoptical view:

MONEY.	{ Nature, origin, and history of money.		
	Functions of money.	Natural functions.	{ 1. As a commodity.
			{ 2. As a measure of values.
		Legal—its power to pay debts—legal tender.	{ 3. As a medium of exchange.
			{ It facilitates hoarding.
		Incidental.	{ It facilitates transportation.
	Its volume.	{ Amount required.	
		{ Effects of deficiency.	
		{ Effects of redundancy.	

244. Peculiar character and power of money.—

Money is the puzzle both of people and of economists. Economic science has no topic more difficult or important than this. Whether as a species of property, or as an instrument of trade, or as a potential factor in modern life, the roles played by money are as dazzling and bewildering as the splendid and coveted metals of which it is commonly made.

Many volumes have been written, in almost every language, to give its history and to explain its functions, and still both statesmanship and public opinion seem alike divided and unable to solve its practical problems. For a second time, this past summer (1881), an international congress of eminent publicists was convened to settle one of its questions, and adjourned without reaching any conclusion. Kings and cabinets have juggled with it for their own profit, and demagogues

have used it as a battle cry for electoral campaigns. It is the jumping-jack of values; the trick card of speculation; the king of the market; and the most watched and feared of all the factors of trade and business. Its power is enormous beyond calculation; its great holders, the "money kings," control trade as monarchs rule kingdoms; and its great fluctuations shake the whole fabric of industry. Modern governments jealously reserve to themselves the right to coin money, and the most difficult and most anxious legislation is that which is devoted to the guarding and controlling its issues and uses.

245. Origin of money.—In its simplest notion, money is an instrument of exchange or trade. It is something to buy and sell with. As such, its invention was easy and natural. The first man who failed to find some one to give him the thing he wanted for the thing he wished to give in exchange, and who thereupon bethought himself to sell his commodity for some third thing with which he might buy the article he needed, invented money. The third something, which he used simply as a means of effecting his desired exchange, was to him money.

Any commodity may be used to effect an exchange, and to that extent may become money. If I can not barter my corn for a coat, I may sell it for butter, and with the butter buy the coat. The butter, in this case, serves me as money. The more general the desire for any commodity, the better it will serve as a medium. Butter is better than corn, in this respect, because more people want butter than want corn.

246. History of money.—In earlier ages, many different articles were used as money. Cattle, slaves, skins, shells, pieces of leather, feathers, strings of beads, grain, sugar, oil, nuts, tobacco, gold-dust, nails, postage stamps, and many other things, have all been used and counted as money.

Gradually, as civilization advanced, and as exchanges increased in number and variety, the commodities most convenient for the purpose were naturally selected and retained

for this use. These commodities were such as were found to fulfill most perfectly all the conditions required, to serve all the uses, and perform all the functions, of true money.

Gold and silver won their place as money, in ancient times, from their brilliancy, their scarcity, their consequent high value, and their adaptability to coinage, and to general use as a portable medium of exchange.

Money having been invented, and having speedily shown its immense power as the one commodity of universal desirability, its coinage was assumed among the prerogatives of sovereignty, and the legal quality became attached. To trace its whole history would be to review much of the economic history of the world. The invention of coinage has been credited to the Corinthians, the Lydians, and to the people of India. It is certain that coins were in use in the sixth century before Christ. The use of paper money dates from the fourteenth century in Europe, but it was employed in Asia, it is claimed, much earlier.

247. The natural functions of money.—What is money? What does it do? To find the true nature and functions of money, let us examine a single act of exchange. Since money, when used, always takes the place of one of the commodities in the act of exchange, it must, evidently, fill all the essential conditions filled by the commodity whose place it takes.

1. In every act of barter or exchange, each of the articles offered in exchange must have value, must be an object of desire—a real commodity. No one will, knowingly, give a valuable for a worthless thing. To fulfill this condition, money must also be a commodity, and have a recognized value.

2. In barter, the values exchanged are counted as equal. Each one is measured against the other. Each measures the other. Money must also fulfill this condition—must equal in value the article for which it is given, and must, therefore, measure it. And as money is so commonly exchanged for

all kinds of goods, it comes naturally to serve as a common measure of values. Thus, the values of all articles are expressed by the money for which these values would exchange.

This incidental use of money has come to be one of its most important functions. It is the universal measure of values. In millions of daily exchanges and bargains in which no money is actually used, the prices of goods to be bought or sold are fixed at so many dollars, or marks, or francs, or pounds sterling. The money value named, at once gives definiteness, in all minds, to the estimate of the values traded. Daily traffic would be paralyzed if this function of money should be destroyed or suspended.

3. In exchanges it is also commonly required that each article shall have further exchangeability—that it may, if desired, be traded for other goods. This is the especial condition required in any commodity to fit it to become a medium of exchange. The wider the exchangeability, the better it will serve as such a medium. Money, by reason of its universal exchangeability, is the universal medium of exchanges. This condition of exchangeability is simply the extension of the first two conditions to successive acts of barter or trade. It is value and mensurability carried forward to successive exchanges.

These three seem to be all the essential conditions of commodities in exchange, and hence the essential natural functions of money may be stated as including these three:

1. It is a commodity,—having a value of its own.
2. It is a common measure of values.
3. It has general exchangeability, and is, hence, a general medium of exchange.

248. The legal function.—Legal tender.—To the three natural functions of money must be added the function given it by law, which authorizes the debtor to tender it in payment of his debt, and compells the creditor to accept it. This is its so-called legal-tender quality. Without this legal quality,

money might be accepted or refused like any other commodity. Its sole power as a medium of exchange would lie in its almost universal acceptability. But with this legal power behind it, it becomes something more than a commodity; it has the stamp and authority of the supreme government upon it, affirming its value, and commanding its use. It is evident that the act of coinage has a value in itself, and means, in practical life, something more than the mere ascertainment and certification of the market value of the metal contained in the coin. A conspicuous instance and proof of this is found in the subsidiary coins, whose money value is always higher than their metal or bullion value.

It is, however, a gross exaggeration of this legal power to suppose that nothing but the government fiat is necessary to give to any commodity the money power. Despotic governments have sometimes attempted to enforce the use of their depreciated money, under the penalty of death for its refusal, but their decrees have been found idle and vain. The necessity that money shall sometimes pass back into its primary condition as a simple commodity, limits the power of the government stamp to give it perpetual currency, at more than its commodity value.

249. Incidental functions.—Hoarding and transportation.—Besides its natural and legal functions, money has two other common and valuable uses, derived from its form and monetary qualities, and which help to give it further desirability and currency:

1. It serves to store up values, in a compact and nearly imperishable form, and thus facilitates hoarding or hiding such stores of value.

So far as hoarding promotes prudence in expenditure and care in saving, it is an economic good; but where the savings are placed in a savings bank, the same end is secured, and the money is not withdrawn from use.

2. It allows and makes easy the transfer of property or

values to distant places. The owner of a farm on the Merri-mac, or Hudson, can not transport it to the banks of the Sacramento or Mississippi; but, by the aid of money, he can carry its full value with him, and possess himself of a farm in the locality desired. Much of property is of the immovable sort; and if men could enjoy it only by remaining with it, the desire to save would be much restricted; but the aid of money permits the transfer with slight expense, not, indeed, of the identical articles, yet of their full value, to the most distant points.

250. Money as a commodity.—Money as a commodity has two distinct values: the value of the metal of which it is made, and the value it has as an instrument of trade. The second depends, primarily, upon the first. Gold and silver, the common materials of money, are valuable as metals. In bulk, or bullion, they are supposed to have nearly the same worth as when manufactured into coin. It was their high values as precious metals which primarily gave them their currency as money.

But money, as a manufactured commodity, has a value arising from its special uses as money. As such a commodity it must also obey the market laws of supply and demand. If in excess of the demand, its value will decline; if deficient, its value will rise in the market. Bankers and brokers trade in the commodity of money, as merchants trade in other goods. They borrow or import it from places where it is cheap, and lend it in places where it is dearer; and this borrowing and lending is a species of purchase and sale.

251. Variations in the value of money.—From its double value as metal and as coin, money has two classes of variations in value,—the variations in the cost of the metal, and the variations in it as a manufactured instrument of exchange. Paper money, representing as it does metallic money, will have the same variations.

There is a popular feeling that we can not have too much

money; that the more money a man or a nation has, the greater the wealth of that man or nation. But no fact is more certain, in the commercial history of the world, than the depreciation of money in value, whenever it has been issued in excess of the public need. The history of the *assignats* issued in France during the French Revolution; of the continental currency of the times of our own revolution; the depreciated paper money of Austria, Italy, Turkey, Russia, and China, as well as in Mexico and the South American republics, all prove, beyond dispute, the certain depreciation of that kind of money when in excess; and this depreciation is not because it is paper, but because it is an excess of money. When the paper money is not made redeemable in coin, the depreciation is still more rapid, because the paper itself has no commodity value lying behind its money value. Metallic money must depreciate just as certainly when in excess; but the depreciation of coin values can not fall below the value of the metals themselves; because, if not needed as money, coins are readily sold as bullion, or exported as such. The immense increase of the precious metals during the sixteenth century, after the discovery of the American mines, diminished the purchasing power of metallic money by nearly four fifths.

The fluctuations in the value of money are not confined to these extreme cases of excessive issue. They occur in money as a commodity, and, because a commodity, as frequently, perhaps, as in other commodities, and from the same causes. The special use for which money is made is that of an instrument of trade. When there is more of this instrument than the trade requires, it is a surplus beyond demand, and must cheapen. When it is less than the trade demands, it is in deficiency, and its value rises. As trade itself is constantly varying in its amounts and demands, the requirements for money must also change, and the daily money reports from the great money centers show this to be the case,

while the corresponding changes in the rates of interest show the rise or fall in the value of money.

The fluctuations in the value of money are concealed from the popular view by the facts that the names and forms of the coins remain unchanged, and that the prices of all other commodities are given in money. The rise or fall in the worth of money is easily mistaken, therefore, for a rise or fall in the prices of goods. Thus, soon after the opening of the civil war, goods and labor were said to have risen in price; and after the close of the war, prices were said to be falling; whereas, the rise in prices was a real fall in the value, or purchasing power, of money; and the subsequent fall in prices was a rise in the worth of money.

This popular illusion must be kept in mind when we would estimate rightly the economic effects and phenomena of money. The fluctuations are inseparable from the function of money as a commodity; and, being concealed, the influence of these fluctuations is carried, almost without notice, into all the estimations of property, and all the transactions of trade.

The variations of the value of money, arising from the increase or deficiency of the precious metals, are much slower in their progress and more permanent in their character.

252. Money as a measure of values.—The measuring function of money rises naturally, as we have seen, from its use, or place, as one of the commodities in exchange. In strict truth, the measurement of the two commodities is mutual. The article purchased measures the money paid, as really as the money measures the article. The measurement is merely the determination of their equivalency. It is by finding how much a dollar will buy that we form our estimate of the worth of the dollar. By common and general use, this value of the dollar becomes known to all traders, and henceforward it is used commonly as the most convenient means of expressing all values.

Money is a conventional, not an absolute standard of

measurement. Its variations forbid its use as an absolute standard of value. In the measurements in daily traffic, its variations are of little consequence; but in the payment of fixed salaries and annuities, and in the liquidation of debts of long standing, it is often of great consequence, entailing serious losses upon some and giving undue advantages to others. This has led to the effort, described in a previous chapter, to find or create a permanent standard of values.

The usefulness of money as a common measure of values is greatly increased by its divisibility. It would be exceedingly difficult to express the value of a coat in baskets or boots, or the worth of a hat in houses and lands; but it is easy to give the price of the most trifling, and of the most valuable, commodities, in dollars and cents. It is this capacity of measurement against the widest extremes of value which gives to money its greatest utility. By this, it serves the child to buy his penny toy, and the capitalist to purchase a railroad worth millions. The day laborer counts in it his wages, and the government employs it to compute enormous national debts and incomes. This makes money the most useful labor-saving machine ever invented by human genius. Money, in this use as an instrument of measurement, is called, frequently, "Money of account."

It is the measuring function of money which renders its concealed fluctuations of value so harmful and sometimes disastrous. It is as if some one should secretly, in a night, shorten or lengthen by an inch all the carpenters' rules and other measures of length in the country. The next day every one would find his property changed in its apparent dimensions, and every unfulfilled contract would be changed in its requirements.

253. The medium of exchange.—The function of money most known and regarded among men, and often among economists, is that of a medium of exchange. Popularly, this is believed to be its only essential function; and

hence the conclusion that any thing which can be made to fulfill, for a time, this function, is good enough money.

Its function as a medium of exchange is fulfilled whenever it is offered and received in payment for goods or labor. The exchange is completed when the money is exchanged again for other goods. Men sell their products for money in order that with the money they may buy in turn the products of other men. The full act of exchange is thus divided, as another expresses it, into halves, a purchase and a sale; and the exchange is made easier, because that only one of the commodities is to be considered and passed upon at a time. If the farmer wishes to trade his wheat for cloth, he is obliged to consider carefully the value of each; but if he sells his wheat for money, and afterwards purchases the cloth with money, he feels that each transaction is simplified, for, knowing in general the value of the money, he is forced to consider first only the price of the wheat, and afterwards the price of the cloth.

The great utility and convenience of money as an instrument of exchange are too obvious and too well known to need demonstration. A single illustration is sufficient. To trade his load of wheat for all the various articles he wishes to get in market, would cost the farmer the labor of days, in finding the persons wishing to make such exchanges as he desires, and in dividing out his wheat to each in due measure; but selling the whole load for money, and buying at once the articles he needs, his task is reduced to the minimum of time and labor.

254. The measure more important than the medium.—In general, no use is popularly known for money except that of buying and selling, and as any money which will pass currently for the time fulfills this use, it is no wonder that little care is felt for the character of money in use so long as it passes. Brass is as good money as silver, and paper is equal to gold, as long as people will take the one as

readily as the other. So says the crowd. But, as we have shown, to serve as a means of exchange is not the only function of money. Its very power to effect exchanges depends upon its character as a commodity and its capacity for measurement. These never leave it, and it is through these that it enters into the commercial system as blood in the body.

But a small part of the actual exchanges of goods and property is made with money. Millions are bought and sold on credit. It is said that ninety-five per cent of the daily exchanges of New York City are effected by other means than money. But not one is effected without the measuring power of money. Every yard of cloth in store, every day's labor, every house and acre of land, every ship that sails the seas, every cargo that comes or goes, the great aggregations of wealth, the gigantic shadows of debt, all are measured by and in the units of money. And as these change with the commodity value of money, the entire accumulations of the property of the world feel the effects. It is not the few millions of money that pass from hand to hand in the course of daily traffic, but the mightier millions which lie in banks and in government treasuries, which are to be watched and taken into account by the economist and statesman. It is these gigantic reserves which react upon the money market, and through this upon all the markets of the world. What the dollar in the market will buy is determined by the millions of dollars which do not appear in market, but lie in the strong vaults ready to meet the final settlements of trade.

The most essential step in making an exchange is the fixing the price, and this must be done by the aid of the measuring power of money—not money actually present, but “money of account”—the established unit and value of money. The price fixed and agreed to, the remainder of the transaction is very simple, and is as easily done without money as with it, in most cases. It is but to transfer the goods to the purchaser, and to take a note, draft, or promise, or a paper dollar,

which is also only a promise, that some time, when desired, or as agreed, the seller shall have value in return.

255. Amount of money required.—The quantity of money required by any country will depend upon three chief conditions :

1. *The advancement in civilization.*—Savage peoples are poor and have few exchanges. They require, consequently, little or no money. As civilization advances, the differentiation of employments goes on, and exchanges become steadily more necessary and more numerous. Up to a certain point, the demand for money constantly increases. After this point is reached, the money begins to become burdensome by its amount, and the increased intelligence finds substitutes for it in the larger transactions, while the increase of public morality favors credit exchanges which are made without the use of money, except on final settlement.

2. *General wealth.*—The larger the wealth of any people, and the more widely this wealth is diffused among the people, the greater the demand for money to effect the daily exchanges. But if the wealth is confined to the higher classes, and the peasantry are poor and ignorant, the demand for money will be less. The largest actual use of money in daily life is found in the payment of wages, and in the purchase, at retail, of daily supplies. Both of these increase with the diffusion of wealth, and diminish with the poverty of the masses.

3. *Intelligence and morals* affect the money demand for another reason. Ignorance and low morals create common distrust, which not only compels cash payments, but also leads to hoarding. Intelligence and good morals increase credit, and favor institutions of credit. Hoarded money goes out of circulation and use ; but money deposited in a savings bank still remains in circulation, the bank loaning it on interest. An ignorant population must commonly work for small wages ; a vicious population will usually prefer idleness to toil.

256. Money circulation of principal countries.—The following tabular statement is taken from the report of the Director of the Mint, for 1881:

COUNTRIES.	POPULATION.		PAPER.	TOTAL GOLD AND SILVER.	TOTAL PAPER AND SPECIE.	MONEY PER CAPITA.
	YEAR	LATEST CENSUS OR ESTIMATE.				
United States	1880	50,155,783	\$780,506,128	\$749,042,484	1,529,548,612	\$30.49
Great Britain.....	1881	35,246,833	207,001,444	694,595,544	901,596,988	25.57
Canada.....	1880	*4,075,000	41,562,711	10,046,000	51,608,711	12.66
Australia	1880	2,749,852	23,606,739	60,440,708	84,047,447	30.58
India	1880	191,096,603	55,874,880	1,015,000,000	1,070,874,880	5.60
Germany	1880	45,194,172	276,897,658	607,792,577	884,690,235	19.56
France.....	1876	36,905,788	511,328,021	1,478,062,000	1,989,390,021	53.90
Belgium.....	1878	5,476,668	63,434,827	107,000,000	170,434,827	31.14
Switzerland.....	1880	2,846,102	16,594,000	34,700,000	51,294,000	18.02
Greece.	1879	1,679,775	12,890,000	7,500,000	20,390,000	12.13
Italy.....	1880	*27,769,475	323,975,402	57,900,000	381,875,402	13.74
Austria.....	1880	37,741,413	295,611,587	90,400,000	386,011,587	10.22
Sweden.....	1879	4,568,901	21,657,372	11,681,616	33,338,988	7.29
Norway.....	1875	1,806,900	10,375,265	10,913,324	21,288,589	11.79
Denmark.....	1880	1,980,675	19,028,000	14,179,000	33,207,000	16.77
Netherlands	1877	3,866,456	83,836,901	85,793,273	169,630,174	43.86
Russia.	1876	86,952,347	126,237,000	119,209,784	245,446,784	2.82
Spain.....	1877	16,625,869	53,867,288	200,000,000	253,867,288	15.27
Portugal.....	1881	4,160,000	5,023,360	60,000,000	65,023,360	15.63
Turkey.....	1880	*21,000,000	21,871,289	15,589,828	37,461,117	1.71
Mexico.....	1873	9,343,470	1,500,000	50,000,000	51,500,000	5.51
Colombia.....	1870	2,951,311	1,895,343	4,500,000	6,395,343	2.17
Peru.....	1876	2,703,070	13,098,820	1,882,018	14,980,838	5.54
Brazil.....	1872	10,108,291	91,000,000	.....	91,000,000	9.00
Venezuela.....	1880	2,080,000	250,900	11,000,000	11,250,900	5.41
Central America....	1880	*2,600,000	163,347	2,692,300	2,855,647	1.63
Argentine Republic	1880	*2,000,000	373,470,000	6,000,000	379,470,000	189.70
Cuba	1877	1,394,516	48,943,457	50,000,000	98,943,457	70.87
Japan.....	1874	33,623,319	147,288,681	150,514,016	297,802,697	8.85
Algiers.....	1877	2,867,626	11,194,000	16,306,748	27,500,748	9.58
Hayti.....	1877	*572,000	.....	5,000,000	5,000,000	8.74
Cape of Good Hope	1875	720,984	4,129,230	32,440,726	36,569,956	50.86
Total.....	.....	.....	3,644,113,650	5,760,181,946	9,404,295,596	.....

* Estimated.

Most of these figures will be sufficiently explained by the three conditions described as affecting the amount of money required.

The countries with a small amount of money per capita will usually be found to have large masses of the population in an ignorant or barbarous state. England claims larger wealth and more business than France, but has only a little more than half the per capita of money. M. Chevalier attributes the difference to the advantage which England derives from its institutions of credit, its banks and clearing houses, which enable it to accomplish the same amount of exchanges with a less quantity of money. It is, doubtless, due also to the disposition so common among the French people to hoard money, derived, perhaps, from circumstances in their former history, and continuing by force of habit.

257. Redundancy and deficiency.—The effects of a redundance and a deficiency of money demand careful consideration. As we have seen, money, like any other commodity, is liable to the operation of the laws of supply and demand. Having specific functions and uses, whenever it exceeds the amount required for those uses, it is in excess; and whenever the amount falls short of supplying those uses, it is in deficiency.

The amount of money needed varies with the course of trade and business. It is larger at some seasons of the year than at others. For example, there is a large demand for money when the crops are being marketed; also when the taxes of the year are being collected. Great public movements and enterprises, in which large amounts of materials are to be purchased and great numbers of laborers are to be employed, also create large demands for currency.

The excess or deficiency of money can only be known by its effects. An excess lowers interest and raises the prices of commodities; a deficiency increases interest and lowers prices. The bank reserves, as they are called, the amounts of money

held by the banks at the great commercial centers, are now watched, as indicating the dearth or plethora of money. Bank interest rises and falls with the diminution and increase of the reserves. These fluctuations are usually temporary, depending on the movements of business; but there are cases in which the whole volume of the money of the country rises, for a protracted period, above the general need, or falls below the demand. In such cases, a readjustment of general prices and values will occur, and so the excess or deficiency will disappear.

258. Effects of too much money.—A general and protracted redundancy of money tends:

1. To stimulate business. Increasing the prices of commodities and of labor, and raising the apparent value of property, it produces a spirit of speculation, and thousands rush into, or enlarge, their business. The increasing prices are mistaken for an increasing demand, and men count upon a career of prosperity. In the end, if continued, the effect would be simply the employment of more money to do the same amount of business. Each man would get more and give more in trade.

2. It places the country at a disadvantage in relation to other countries; for the high cost of its commodities would discourage or forbid their export, and the redundancy of money, even if it is in gold, can not be exported except at a loss, since it must go as bullion and not as coin.

259. Too little money.—A protracted deficiency of money tends:

1. To hinder exchanges and diminish, to some extent, the circulation of goods.

2. To increase the rate of interest and to discourage business. The fall of prices and of wages are commonly taken as evidences of general prostration and poverty, and men hesitate to go into business or to increase their risks. The final result must be to fix all prices on a lower scale. Men

get less and give less money in trade, and business accommodates itself to the new values of money.

3. The country gains in its relations to foreign countries where a similar result has not been reached. Its exports are at a larger profit, and gold, if not goods, may be imported at an advantage.

Another and serious effect of a deficiency of money, is the hardship imposed upon the debtor class. This class is always a large one, and especially in times of financial prosperity, when public confidence enlarges the amount of private credit. As a deficiency of money raises its relative value, the debtor finds his debt increased, while the property for which he incurred the debt shrinks in price. The opposite line of effects follows a redundancy of money, which entails a hardship upon the creditor class. During the war, mortgages upon western farms, to an immense amount, were paid off with paper money worth no more than one third to one half the money loaned. On the other hand, debts contracted and mortgages given during the later years of the war, or in the years which immediately followed the peace, while the great volume of paper money was still afloat, had to be paid at a later date in money worth two or three times that which was borrowed.

CHAPTER XXIII.

MONEY—CONTINUED.

260. Kinds of money.—Metallic.—Modern money is of two chief classes: 1. Metallic money, called specie; 2. Paper money, sometimes called credit money. Each of these classes has several varieties.

All the civilized peoples now concur in the choice of the two precious metals, gold and silver, as the fittest materials for money. Inferior coins and tokens are made of copper, nickel, and alloys.

Gold and silver, which have been in use as money from very early times, are peculiarly suited to be the money of the world: 1. They are beautiful and easily distinguished in color. 2. They are sufficiently hard and durable to receive and retain the impress of the mint in coinage. 3. They are so valuable that small and portable quantities contain the requisite amount of value. 4. They are nearly sufficient in amount to supply the money needs of the world. 5. They have an independent value for other important uses in the arts to sustain and regulate their use as money. 6. They are susceptible of being divided into equal parts sufficiently minute to measure nearly all the current values of the market. 7. They are so nearly indestructible that they may be hoarded without danger of loss. 8. Though liable to fluctuations of value, from the rates of production, they fluctuate so little and so slowly that, within periods of considerable length, they may be considered as fixed in value. 9. It is another advantage

possessed by these metals, that they are so related to each other in value, that the one furnishes convenient coins of small value, and the other, coins of large value. Few of these advantages are found in other metals; and no other metal possesses them all. Platinum has been proposed and coined by Russia, but the supply is not sufficient for a general use; and if new discoveries should overcome this objection, it has such a limited use in the arts that its value could not be kept at a high figure when greatly increased in amount.

With the addition of copper and nickel for the coins of small value, the metallic money system may be regarded as complete. So far as a specie currency is concerned, these four metals leave little to be desired.

The history of the precious metals, and of their use as money,—of their fluctuations of value, and of their relative changes,—is full of interest and instruction, and recent investigations afford abundant material for such history; but it would unnecessarily swell our volume. The articles on gold, silver, money, mint, coin, and coinage, in the cyclopædias, or any of the numerous books upon money which have recently appeared, will give the student or reader a fuller statement than would be possible here.

261. Problems of coinage.—The question of the standard of coinage has assumed, of late, a new interest and importance. The demonetization of silver by the German Empire, the remonetization of this metal in the United States, the vast discoveries of silver and gold in Western America, Australia, and Russia, and, finally, the two unsuccessful international conferences, held in 1878 and 1881, to secure the adoption of a common standard by the leading commercial countries of the world,—all these have given to the subject an interest which is scarcely exceeded, at the present time, by any other in the range of Political Economy.

The practical problems of coinage are the following :

1. The choice of the metal or metals for the legal money,—

money to be coined by the government and made legal tender, for the payment of all debts.

2. The determination of the money unit; as the dollar, the franc, or the pound sterling; and also the multiples and fractions of this money unit to be represented by different coins.

3. The fixing of the amount of pure metal and alloy which shall make the unit coin and the other pieces.

4. The choice of the form, design, and inscriptions for each piece.

5. Whenever two or more metals are to be used as money, the determination and establishment of the ratio of value between them.

262. Single and double standard.—The chief question now in debate between states and among statesmen is whether gold or silver, or both, shall be made legal tender. Countries using both gold and silver as legal currency are said to have a double standard. Those using only a single metal, either silver or gold, for their legal currency, have a single standard. The single silver standard prevails in Australia, in India, China, and other countries in Asia. The gold standard is in use in Great Britain, Germany, the Scandinavian Kingdoms, and Portugal. The double standard, gold and silver, prevails in the states of the so-called Latin union, including France, Belgium, Italy, and Switzerland. It is also in use in the United States, in Spain, Greece, Netherlands, Mexico, Japan, and Russia. The countries having the gold standard still use silver for subsidiary coins,—or *billion*, as the French call all coins which are employed to make change, but are not a legal tender, except for very small amounts.

In 1873, the United States demonetized silver, taking away from silver coins their legal tender quality. Not long afterwards the agitation began for its remonetization, and after a long and somewhat heated controversy, in Congress and by the press of the country, silver was again made legal tender, and its extensive coinage was commanded by law. Since this

remonetization, the opinion has been growing stronger in this country, that the double standard is founded in reason, and ought to prevail throughout the world.

263. Battle of the standards.—"The battle of the standards," as Prof. Jevons calls it, began in earnest only after that the gold discoveries in California, in 1849, and in Australia, in 1851, threatened, by their extraordinary richness, to create a monetary revolution. Apprehending that gold would sink enormously in value, Germany, in 1851, hastened to demonetize gold and establish the silver standard. Belgium and Holland also joined the silver states. The annual production of gold, according to Gen. Walker, rose from \$30,000,000, in 1846, to \$150,000,000 in 1852, while the annual yield of silver increased, in the same time, from \$32,500,000 to \$42,500,000. But the panic proved needless. The fall in gold was lightened by the larger coinage of it in the double standard states, and by the fact of the two metals being tied together in these states. According to Prof. Jevons, the price of silver was raised only from 59½d. to 62¾d. in London, and the permanent depreciation of gold was not more than one and a half per cent.

In 1859, the rich Comstock lode was discovered in the Sierras, and in 1861 the silver mines of Nevada began to pour their treasure upon the markets of the world. Slowly the tables began to turn; gold began to rise from its depressed condition, and silver to fall. By 1867, the two metals stood at par again; but silver continued to fall, and now came a silver panic. Germany, in 1871, demonetized silver and established the gold standard, offering a large amount of silver for sale, and entering the market for gold. Her example was followed by the Scandinavian states, Denmark, Sweden, and Norway. And India, the hitherto insatiable market for England's silver, having fallen off in its demand, the price of silver went down to 47d., or less. In 1879, it had risen again to 52 $\frac{7}{16}$ d. According to General Walker, the mean

annual rate of exchange, by weight, of silver to gold, was, in 1867, 15.57 for 1; in 1871 it was 15.58:1; in 1873 it was 15.92:1; in 1874 it was 16.17:1; in 1875 it was 16.58:1; and in July, 1876, it fell to 20.17:1.

The silver product of the United States rose from \$2,000,000, in 1861, to \$38,000,000, in 1878. In 1854, the annual silver product of the world was estimated at \$47,442,000. In 1878, it was reported at \$87,351,491. The total production of the precious metals throughout the world, in 1880, as given in the annual report of Hon. Horatio C. Burchard, director of United States Mint, was as follows:

Gold, weight, 160,984 kilograms; value, \$106,989,846.

Silver, weight, 2,105,966 kilograms; value, 87,543,072.

England established the gold standard in 1816, and has adhered to it steadily since. Her statesmen and economists, with some distinguished exceptions, are monometallists. The United States had the double standard till 1873, and reestablished it in 1878. France and the other countries of the Latin union, established in 1865, hold to the double standard, and their most eminent statesmen and economists are bimetalists. The experience of the world is as yet too limited to allow a final settlement of the controversy by an appeal to unanswerable facts; but the present aspect of the field may be usefully stated.

1. All agree that, in any event, silver must continue in use for coins of smaller value than can be coined conveniently from gold. Even the gold dollar has been found too small for safe use. And as the larger part of the currency, in daily use among the people, is of these lower denominations, silver must still supply the working coin of the world, to a very large extent. The silver coin in circulation in Great Britain, in 1881, was \$92,263,973, to \$602,331,571 in gold coins. Much of this gold was locked up in the banks, to serve as the basis of the paper money in circulation to the amount

of \$207,001,444. The specie circulation in France was estimated, in 1881, to be:

Gold,	\$874,876,000.
Silver, legal tender,	545,286,000.
Silver, limited tender,	57,900,000.

2. It is claimed by the bimetallists, and partly admitted by the others, that gold can not be had in sufficient quantities to supply the money need of the world; but it is urged, on the other hand, that the Asiatic peoples will continue to use silver alone. Japan, however, has adopted the double standard, and has already a large gold coinage, amounting, in 1874, to \$99,852,138. And if all Europe and the United States should adopt the gold standard, a gold famine must result, which would prove, for a time, ruinous to business interests. The total circulation of thirty-one leading countries of the world, embracing Japan and India, as given in the report of the director of the mint for 1881, was as follows:

Gold coins, ,	\$3,221,223,971.
Silver, legal tender,	2,115,169,997.
Silver, limited tender,	423,787,978.
Total specie circulation,	<u>\$5,760,181,946.</u>

The paper money in circulation, at the same time, was \$3,644,113,650. The specie held in reserve to support this paper circulation was \$1,259,808,053.

3. The demonetization of either metal by any great commercial people, and much more, if general, would depreciate that metal by taking from it a large part of its uses, and would tend, to the same extent, to raise the value of the one left to bear alone the money work of the world. The demonetization of silver by Germany, in 1871, is claimed to have been the chief cause of the depreciation of silver which followed; though its remonetization by the United States has as yet done but little to restore this metal to its old relative value.

This is partly explained by the continued sale of German silver, and by the temporary discontinuance of the silver coinage of the Latin union.

4. It is admitted that both gold and silver fluctuate in value, and at different rates at different times. It is claimed that the mean of fluctuation between them is less than the fluctuation of either of these metals alone. When tied together by law as parts of a common currency system, each one acts as a check upon the fluctuation of the other. If gold becomes dearer, silver is called more into use, and the rise of gold is checked; and if silver rises beyond its proper valuation, gold comes back into circulation, and silver is held in check. This compensatory action, as it is called by M. Wolowski, has been well illustrated by the action of the French system, to which, according to Prof. Hansen, of the Berlin University, "Europe, or, rather, the whole civilized world, is indebted for its escape from the perturbations in the relative price of gold and silver, threatened by the enormous arrivals from Australia and California."—Report of Silver Commission.

5. It is a known law that the poorer money will always drive out the better, from circulation, as was announced three centuries ago by Sir Thomas Gresham. It is affirmed, therefore, that the metal which is for the time depreciated, will displace the other, and thus bimetalism will prove practically to be only monometalism, with the poorer metal always in use. To this it may be replied that if true, it is of much less consequence than the larger fluctuations which must result from the use of a single standard. The chief point in the discussion is how to save business and property from the effects of the monetary fluctuations. The later experiences of the United States have served to shake somewhat the conclusions that only the poorer metal will remain in use. Although silver remained in a depreciated condition, large importations of foreign gold came into the country during the

years 1879, 1880, and 1881, under the necessities of trade. It is true that only silver is found in common circulation; but it may be said that for the common purposes of business silver is most convenient. The gold has remained in the banks and in the government treasury as a basis of the paper circulation.

6. It is a common objection, urged by the monometalists against the use of a double standard, that the ratio between the values of the two metals changes from time to time, and this demands a revision and reestablishment of the legal ratio. Yes; but this change goes on so slowly through the course of years as to affect but slightly the monetary values of the coins, supported as they are by the legal tender function already described. The chief use of gold and silver is as money, and they are not, therefore, likely to be greatly affected by any variability of demand for them in the arts. The annual consumption of the precious metals throughout the world, in ornamentation, manufactures, and the arts, was estimated, for 1880, to be \$75,000,000 of gold and \$35,000,000 of silver. This estimate is much higher than any estimate made heretofore. The production for the year 1881, in the United States, was, of gold, \$36,500,000, and of silver, \$42,100,000, coining value, or about \$37,000,000 bullion value. The total consumption, in the arts, was estimated at \$11,000,000 in gold, and \$6,000,000 in silver.

264. Paper money.—Paper money, as it is popularly called, consists of a printed promise to pay to the holder the sum of money named in the promise. This promise, issued in modern times by the government or by a bank authorized by government, is treated as representing the money which is named in it, and which is obtainable, on demand, in exchange for the paper itself. Thus representing a sum of real money, it is readily taken in place of money, and serves all the purposes of money in effecting exchanges. It is received and paid out as readily as coins; and the unreflecting, who think only of

this common use of money, are led to believe that it is as real money as the gold and silver coins whose functions it seems to fulfill.

Paper money has two origins, and is, therefore, of two kinds,—*credit money* and *representative money*; though both may be called representative in the sense that they have no value of their own, but in all cases represent other values, for which they may be exchanged.

265. Credit money.—Credit money consists of bills issued by government or by banks, and promising to pay on demand the sums of money named in the bills. Such bills simply pledge the credit of the party issuing them to their redemption. They differ from an ordinary note of hand, given by an individual or by a business firm, in two important respects: 1. In having a convenient form for circulation, being finely engraved, with devices to guard against counterfeiting, and printed on fine, strong paper fitted to endure much handling and wear; 2. In being issued under special laws giving authority to issue such bills to be used as money, and providing against over issue and loss to the holder.

With these two important exceptions, these bills are like any other notes of hand, or credit paper, payable on demand, and resting on the solvency and trustworthiness of the parties making them. Private notes, checks, and bills may perform the functions of money in the same way, but the bills of banks and of government perform them more widely and safely from the above-named facts of their conveniences of form and their legal guaranty. They are also issued in smaller and more convenient denominations.

266. Representative money.—Representative money, strictly so called, consists of tokens or certificates of deposit issued by the government or some corporation, which receives gold or silver from any depositor, and gives him in exchange a certificate, or certificates, for the amount. These certificates represent money actually on deposit, and to be had by the

holder of the certificate on demand. The certificates pass from hand to hand in the same manner as the coins would which they represent, and thus serve as money.

The bankers of Amsterdam and Hamburg are said to have given these tokens or certificates of deposit in early times; and, in London, the merchants were accustomed to deposit their gold and silver with the goldsmiths for safe keeping, and their receipts circulated as currency under the name of "goldsmiths' notes."

In the paper money now in use in this country, both classes of paper are found. The greenbacks and national bank-notes are, properly, credit money, being simply promises to pay; the silver certificates are representative money. The main economic difference between the two classes of paper is that the representative money can never exceed, in amount, the coin on deposit, while the credit money may be issued to any extent the law will permit.

267. Advantages of paper money.—Whatever may have been its earlier history, paper money has, in these times, been found to have advantages which will certainly insure its continued use. Among these advantages, the following are some of the chief:

1. Its easier counting and portability. Metallic money is, necessarily, coined in pieces of small value. The most valuable gold coin, the double eagle, is worth only twenty dollars, and most coins in use are much lower in value. To count in coins the large sums now common in trade would occupy too much time, and the transportation of these sums, when counted, would be still more difficult and hazardous. Bank bills may be made of any denomination, and they commonly include bills of \$50, \$100, \$500, and \$1,000. These may be as quickly counted as single dollars, and it is no more difficult to carry \$50,000 than to carry \$50. The money required for a journey would be burdensome in coin, but in paper it is both easily carried and readily concealed.

2. Economy in the wear of coins. The loss of the precious metals, by the abrasion or ordinary wear of coins, and by the clipping, sweating, and other fraudulent mutilations, is saved by depositing the coins and employing paper substitutes or representatives. Careful estimates show that the average lifetime of the English gold sovereign, before it is too much worn to pass current, is only about fifteen years. Smaller gold coins and the silver change in daily use suffer much more. These losses, as well as those arising from the total loss of coins, are avoided by the use of paper, except the cost of the renewal of paper notes.

3. Paper money enables a country to multiply its currency without largely increasing its supply of the precious metals. This applies only to credit money; for, as we have seen, true representative paper, or coin certificates, can be multiplied properly only as the coin itself is multiplied. Credit money, to be safe from depreciation, must be convertible into coin by exchange at the will of the holder; and, to secure this convertibility, the government or banks issuing the paper must keep on hand the coin necessary to redeem the bills as presented. But it has been ascertained that never, while the public confidence remains unshaken, will all the bills be presented at once for redemption. And those redeemed to-day may, in the course of business, be issued again to-morrow. Experience teaches that a paper circulation is safe in ordinary times that has a reserve of one third of its value in coin kept on deposit for its redemption; that is, with a million dollars of coin in bank, it is safe to issue for circulation three millions of dollars in paper. It is understood, of course, that in addition to the coin reserve, the banks hold other property of various kinds, which may be used to redeem its paper issues in case of necessity. The national banks are required to deposit with the United States Treasurer government bonds to secure the redemption of their bills. November 1, 1881, the government paper, including treasury notes and silver

certificates, in circulation was \$420,151,878, while its metallic reserve, at that time, was \$268,975,470. The national bank notes in circulation was \$360,344,250, and the specie reserve, in the banks, \$107,450,756. Thus, the country, possessing only \$376,426,226 in specie reserves, had for use, in place of this specie, \$780,506,128.

4. It is another advantage of paper money, that its amount can be rapidly increased when the wants of trade demand it. Metallic money can only be increased slowly. The metal must be obtained and then coined; but the volume of paper can be multiplied by a few movements of the printing-press and a few strokes of the pen.

These advantages of paper are not gained without some perils, which it is important to consider.

268. Dangers of paper money.—1. The first and chief danger of paper money is that of over issue. It has been seen that a redundancy of money leads to a depreciation in its value, or a loss in its purchasing power. In metallic money a surplus is not easily reached, and is quickly remedied by its ready flow to markets where it is more needed, and will bring a better price. Gold and silver are in demand in all lands, but paper money has no currency outside the country in which it is issued. This danger can only be avoided by making the paper always convertible into gold and silver, at the will of the holder, so that when depreciated it may be exchanged for specie, and the specie, if in excess, may be exported. But, unfortunately, when the crisis comes, the government is too frequently asked to suspend specie payments, or, in other words, to allow a temporary violation of the promise to pay money for the paper, and then the specie silently steals away to foreign markets, and the people are left with their irredeemable and depreciated paper, to do with as best they can.

2. Prudent governments, guided by the common sense of the world, have not often been willing to give the legal tender

power to paper money, and so the people have been left free to receive it or not, as suited them; but in times of war, or great public distress, the temptation to get cheap money has been too strong, and the government, pressed for funds, has used its authority to give legal force to its paper. This might not prove harmful if it were not accompanied or followed by over issue; but the very object of giving to paper the legal tender function is to give it a currency which it would not have of itself, and to keep it afloat after its natural depreciation has begun. The result is to drive still more rapidly all true money out of the country, and in the end to impose upon the people still larger burthens of taxation. The cost of the Civil War in the United States was nearly doubled by the depreciation of the currency; and years of endurance were required to recover from the false conditions into which the business of the country was thrown. In the Revolution, still more serious losses followed from the same cause.

3. From the causes already mentioned, paper money is liable to far greater fluctuations than gold and silver, unless closely tied to a metallic basis by an absolute and easy convertibility into coin. In times of commercial prosperity, no danger appears, and no harm is felt; but when the great financial tempests—the commercial and industrial crises—arise (and they come as certainly if not as frequently as the atmospheric storms), the paper money is always found to be an additional source of danger. A commercial crisis is always also a monetary crisis.

269. Banks and banking.—Closely connected with the subject of money, both in its origin and in its circulation, is the subject of banks and banking. A bank is a monetary institution. Its business is to receive, keep, loan, and sometimes to make and issue paper money. They are among the most necessary of modern business institutions, and their power over trade and commerce has attracted the attention alike of governments and economists.

Banks are of two chief kinds,—banks of deposit and banks of issue, or circulation. The banks of issue are also banks of deposit, so that in describing the functions of the latter we shall describe also much of the business of the former.

Banks of deposit perform the following functions :

1. They receive on deposit, for safe keeping, the funds of their customers. Sometimes, but not generally, they pay a small interest on these deposits.

2. They loan money both from their own funds and from those of their depositors. These loans are sometimes made for long time, a year or more, on mortgages given as securities, but more frequently as business loans to merchants and other business men, on short time, and on personal securities, on the note of the borrower, made directly to the bank, and called “bank paper;” or, on notes given by one business man to another in the course of trade, and cashed or discounted by the bank. These latter are called “business paper.” Through the agency of banks of deposit, much of the money which would otherwise be hoarded, or kept in private safes, is sent into public use.

3. They effect exchanges between their depositors or others. This work of the banks has grown into importance beyond all others, till it is difficult to see how modern business could be transacted, so immense is its volume, without the aid of the banks in effecting its payments.

The depositor who wishes to pay a bill does not send to the bank for the money, but makes an order, called a check, upon his banker, and pays out this order in place of money. The receiver gets the money if he wishes, but most frequently deposits the check with his banker as so much cash.

If both parties employ the same bank, the amount of the check is simply transferred from the account of the maker to that of the holder, and thus, by the filling of a check

and an entry on the banker's books, the payment of thousands of dollars, it may be, is effected, without the counting or transportation of a single one. If each employs a different banker, the check is still deposited, and the settlement is made between the bankers, each of whom has probably received, during the day, many checks drawn upon the other, so that check balances check; and at last only a small sum needs to be carried from one bank to the other to complete the exchange of millions of dollars. The late President Garfield, in 1871, asked the Comptroller of the Currency to issue an order to fifty-two banks, in three groups, including banks in large cities, small cities, and in country towns, to report their receipts, analyzed for six consecutive days. "During those six days," said Mr. Garfield, "\$157,000,000 were received over the counters of the fifty-two banks; and of that amount, \$19,370,000—twelve per cent only—was in cash, and eighty-eight per cent (that vast amount representing every grade of business) was in checks, drafts, and commercial bills."

Efforts have frequently been made to ascertain elsewhere the proportion of the daily exchanges effected by the use of checks. The following table is given in the annual report of the Comptroller of the Currency, for 1881, showing the percentages of coin, bank notes, and checks received by bankers:

LOCALITIES.	COIN.	NOTES.	CHECKS.
	PER CENT.	PER CENT.	PER CENT.
New York, September 17, 1881.....	.55	.65	98.80
London.....	.73	2.04	97.23
Edinburgh.....	.55	12.67	86.73
Dublin.....	1.57	8.53	89.90
Country banks, Great Britain, 261 places.	15.20	11.94	72.86

270. Clearing-house.—The clearing-house is an association of banks designed to aid in the settlement of the balances between those banks. With the help of this institution, the power of the banks to effect payments and exchanges, without the counting of money, is greatly increased. It is reported that in the London clearing-house, debts amounting to nearly \$100,000,000 a day, are settled without the transfer of more than the comparatively small amounts required to meet the balances. Out of \$167,437,759 received by forty-eight national banks in New York City, June 30, 1881, \$165,254,164 was in checks and drafts, and of these the clearing-house certificates amounted to \$3,835,500. These certificates represented the amounts of balances to be transferred at the close of the previous day's business. The payments to the clearing-house banks, much as they are reduced, by this system of settlement, still require the daily transfer of an average of two and a quarter tons of gold, as stated by the Comptroller of the Currency (report of 1881).

The New York clearing-house association is composed of forty-five national and twelve state banks, and the assistant treasurer of the United States at New York. The total exchanges effected through this clearing-house, during the year ending October 1, 1881, were over \$48,000,000,000, while the balances paid in money were less than \$1,800,000,000. The daily average balances were nearly \$6,000,000, or about three and five tenths per cent of the whole amount of the settlements.

271. Banks of issue.—National bank system.—Banks of issue are those which, in addition to their other functions, are authorized by law to issue bills or notes to circulate as money. Many systems of such banks have been devised and tried in Europe and America, often with little success. The chief difficulty has been to make the notes stable in value, and to secure the holders against possible loss from any failures of the banks to redeem their bills.

The national bank system, now existing in the United States, has thus far proved the safest and most satisfactory of any system yet tried in this country. Prior to the act of Congress, passed in 1863, "to provide a national currency," all banks of issue and deposit in the United States were chartered by the states, each state having its own peculiar system; and the fluctuations in values of their notes, and the frequency of failures, were so great that daily "bank-note detectors," as they were called, were published, and were consulted constantly by traders to guard against taking bad or depreciated money. These detectors contained lists of all the banks of issue, amounting to over 1,400, and gave an account of the known counterfeits upon each, and the day's statement of the rate of discount at which the bills of each were to be received.

The aim of the national banking law was to provide a national currency which should be uniform and safe. The law provided for a separate bureau in the United States Treasury department, the chief officer of which is denominated the Comptroller of the Currency. It further provides that banking associations may be organized with a capital of not less than \$100,000, except that \$50,000 capital might be allowed in places of not exceeding 6,000 inhabitants, and \$200,000 is required in cities of more than 50,000, to continue in existence twenty years; that stock holders shall be liable for the debts of the bank to the extent of their stock; that the association shall deposit with the treasurer of the United States not less than \$30,000, and less than one third of the capital stock paid in, in United States bonds, before commencing business; that each bank thus organized and approved is entitled to receive from the Comptroller of the Currency, circulating notes equal in amount to ninety per cent of the market value, but not above the par value, of the bonds deposited—not exceeding eighty per cent to banks whose capital is \$500,000 or over, seventy-five per cent to banks whose capital

exceeds \$1,000,000, and sixty per cent to banks whose capital exceeds \$3,000,000; that each of the banks in certain chief cities shall at all times have on hand, in lawful money of the United States, an amount equal to twenty-five per cent of the amount of its notes in circulation, and each of the others of these banks shall keep a reserve of not less than fifteen per cent of its circulation. As all the circulating notes are furnished by the comptroller of the currency, and as the deposit of United States bonds more than covers the amount of notes issued, it is impossible that any loss can come to the bill-holders. Many of these banks have failed as banks, by bad management or speculation, but the notes of the broken banks are as good as those of the solvent ones, for the funds for the redemption of these notes are in the hands of the comptroller. The number of national banks in operation, June 30, 1881, was 2,115, with a capital of \$460,227,835, not including a surplus of \$126,000,000. October 1, 1881, the national bank notes in circulation amounted to \$320,199,969; and the United States bonds held for their redemption amounted to \$363,335,500. Besides the national banks, there are some state banks still in existence, though without circulation.

There are also large numbers of private bankers who render important service in effecting the exchanges of the country, and lessen, by so much, the demand for money as a medium of exchange. The whole number of state, private, and savings banks, June 30, 1881, was 4,681, having a capital of \$210,738,203, or a little more than one third of the capital of the national banks.

CHAPTER XXIV.

PROPERTY.

272. The wealth segment.—The discussion has now reached the third and final segment of our circle—the last grand division of the science of economy.

We have seen how human wants, always advancing and multiplying with the advancement of civilization, have multiplied the demands for wealth, and set in motion the arts which produce it. We have followed these arts and industries in their growth, from small and rude beginnings, to the enormous activity and splendid power which at this hour fill the world of work. We turn now to study more attentively that countless mass and variety of valuable goods and products which constitute the world of wealth.

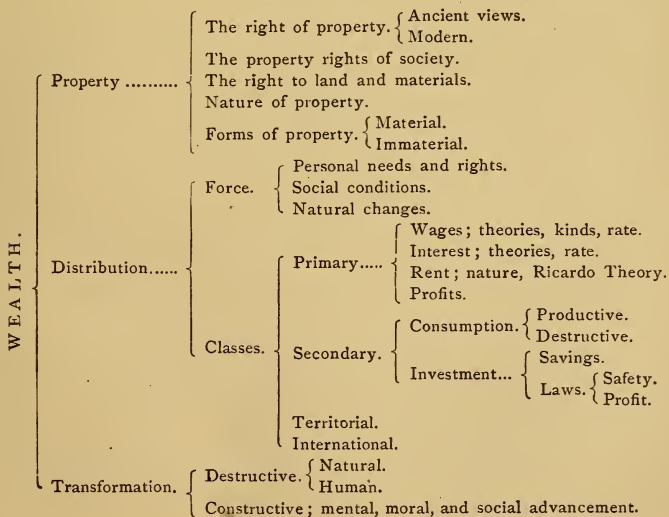
Wealth, confined, in its infancy, to the few fruits gathered from the fields, and to the rude contrivances with which primeval man sought to sustain his life and to defend himself, or attack his foes, was of but little weight as a motive to action. These slender possessions scarcely appealing to his cupidity, rarely moved man to industry, or even to robbery. To-day wealth stands upon the earth, the most conspicuous object which meets the eyes or tempts the hearts of men. The globe seems covered with it. Thousands of cities—solid masses of wealth—crowd the continents. An infinitude of fabrics of every material, name, and use, are massed in storehouses, or are borne over land and sea. Man walks, lives, and works amid the rich and various creations of his own

hands; and these perpetually excite him to new efforts. The mightiest power upon the globe to-day is the money power, which is only the right-hand of the wealth-power. This power controls society, impels industry, and governs states.

So imposing and potential is this wealth, so conspicuous and dazzling among the industrial phenomena, that many economists, as we have seen, have agreed in calling economic science the Science of Wealth.

We have surveyed the wants which call wealth into existence and give to it utility, and have discussed the great agencies of work by which its values have been shaped; but there remains a large segment of economic facts and truths which attach to wealth after it has issued from the creative hand of industry, and comes to stand before us an independent economic phenomenon.

The following outline will serve to introduce us to this last field of our study:



273. The right of property.—Ancient view.—The earlier economists accepted the right of property as a fact, and left its discussion to the philosophers and lawyers. Modern economics, more searching and more profound, must meet this question also; must explain and defend property, not simply as a production, but also as a possession.

It will seem strange to many to be told that the true notion of property, as now accepted among men, was not fully understood nor received till near the close of the last century. Some of the opinions held will show how the minds of men groped in the dark, in their efforts to discover the truth. Montesquieu said: "Men renounced their natural independence that they might live under political laws; they renounced community of goods in order to live under civil laws. The first laws gained for them liberty; the second, property." Jeremy Bentham, agreeing with Montesquieu, affirmed that: "Property does not exist in nature; it is consequently the product of the laws." "I can not count," said he, "upon the enjoyment of that which I regard as mine, only on the promise of the law which guarantees it to me." Mirabeau said: "Private property is goods acquired by virtue of the laws. The law alone constitutes property." Robespierre affirmed: "Property is the right which each citizen has to enjoy the goods guaranteed to him by the laws." Grotius (1583-1645), nearly two hundred years earlier, taught that God had conferred upon the human race a general or common right to all things; that each took for his own use what he wished, and consumed what he chose; that matters remained in this state till the multiplication of men and of animals upon the earth caused the lands which had been divided among the nations to be parted among families, and each appropriated that which he was able to seize. All these writers, it will be observed, leave out of sight the labor which creates property, and confound the right of property with the security which the law gives to that right.

These views will seem less strange if we consider the loose and uncertain tenure under which property was held in olden times.

In the beginning, men take what they require, from the common stock of nature, and abandon what they can not use. The idea of property scarcely enters the mind. The occupation of the soil was at first for a night; then, for a single harvest season; finally, for life. Land belonged to the tribe before it belonged to the family; to the family before it belonged to the individual.

When movable property began to accumulate, it was held by force, and taken by violence. In the middle ages, fortunes were obtained by craft or force. The labor which produced property was the labor of serfs or of slaves, who were seized and sold with the goods they produced. Land, labor, and harvests were seized and held by the strongest. The only notion of property likely to exist in such a state of society, was that it belonged of right to him that had the power to take it and keep it. When at length law came to restrain violence and to protect men in their rights, property was naturally thought of as the gift of law. The feudal chieftain owned, in some sense, the labor and the chattels of his feudatories; and the rights of the laborer to the products of his industry were only partial rights, liable at any moment to be resumed by his lord. When the law took the place of the chieftain, it became, like him, the source of rights and privileges. Only careful scholars can appreciate how slowly the ideas of property, liberty, and personal independence have made their way in the world.

Sir Henry Maine and Emile de Laveleye have proved that the village community system of land-holding was once common in England, Germany, and, indeed, throughout Europe, as also at the foot of the Himalayas, among the Hindoos; and as the idea of property, or of rightful possession, first developed itself in connection with land and the products of

land, community of property must have been, and was, as naturally held as community of land. All investigations of the German and other European scholars show that this was the case. Individual property had little or no place or sacredness in the system.

274. The right of property.—Modern view.—The emergence of the rights of man brought with it, as its necessary corollary, the emergence of the right of private property. The right of man to himself obviously includes the right to what he produces. This right embraces possession, enjoyment, and the power of alienation by gift or exchange. Such is the modern view.

The right of property, like that of liberty, is a personal right. It rests upon nature, and not upon law. Law, or rather society acting under law, may be summoned to defend these rights; but law does not create them. Property comes from labor, and labor is the free effort of the laborer. As a free man he may labor or not, as he chooses. If he does not labor, nothing is produced; if he labors successfully, some value results, and this value belongs to him that created it. The laborer may sell his labor to another, taking in place of the product the wages which his employer gives. His sale of his labor is a virtual sale of the product, and this product belongs to him who bought it from its rightful owner.

It is admitted that there is a kind of property which seems to be held by no right save the right of prior occupancy. Such is the right of the man who first takes a piece of land, or who appropriates any of nature's gifts which he may find unappropriated. It is against this kind of property that most complaint is made, and the complaint is sometimes extended to all property by the skillful confounding all other property with this.

It must be admitted that simple occupancy can not give a permanent right to the thing occupied. So long as the occupancy continues, the man has a claim to remain undisturbed,

unless his occupancy is injurious to others who have an equal right; but when his occupancy ceases by his voluntary abandonment of it, the land or other material thing occupied returns to the free state of nature, to be taken by the next comer. The occupant may, indeed, transfer his occupancy to another for a price; in other words, he may be hired to vacate in favor of another waiting to take possession. This occupancy must be a real one. Robinson Crusoe did not occupy his whole island by simply living on or inclosing a part of it. His right extended only to so much as he used or held inclosed for use. As soon as the occupant has bestowed labor upon the land, or material, and fitted it in the least for human use, he has added value to it, and the case is changed. His right of occupancy is then changed to a right of property.

Government, standing in the place of the body of society which it represents, holds the right of eminent domain over all unoccupied territory, and sells or grants it to private individuals. In this case the right of property may be thought to come from the law, but if we carefully reconsider the nature and origin of values, as explained in a previous chapter, it will be found that whatever value is involved, is the product, not of law, but of labor. The toil and expenditure of the American people, in establishing good government over our territories, and in creating manufactures and markets, has reflected a certain amount of value upon all the lands within these territories. The government sells this inchoate and reflected value, and thus guards against the strifes also of rival occupants.

275. The property of society.—The doctrine of Dugald Stewart, that property, or the right of property, derives its origin from two distinct sources, the one labor and the other the municipal institutions of the country, has this of truth in it: that some property, or value, is created by the common efforts of society, and that this property so created may be

conferred by government, as the agent of society, upon some private individual. We may add here that on these values, created by the efforts of society, rests the right of government to tax private property. In taking taxes for the public use, society does but take its own.

Society may be said to be a silent partner in every man's business. It acts as a watchman or guardian of the accumulating wealth. As this wealth increases in volume, the services of society grow larger; and there may come a point where the work and expenditure of society in guarding, is greater than that of the owner in creating, the property. But society does not act as guardian alone; it produces, by its mere presence, and still more by its manifold interests and industries, the conditions which make large values possible. It is the presence of the multitudes of citizens which gives to city-lots their enormous values. Every man that erects a costly and elegant mansion adds to the price of the adjoining lots. A great manufactory or a railroad raises the price of land all around it. The values created thus by the public furnish the legitimate basis both for taxation and for that control which, in the last resort, or in cases of public need, government rightfully assumes to exercise.

The valuable privileges and franchises granted by government to private parties or corporations, are to be explained in the same manner. The value of these franchises is the product of the general and common efforts of society. A wise and just government will only confer them for the good of society, and will carefully guard the rights of society in the terms of the grant.

Thus all rights of property are seen to merge at last in the rights of man, since all property comes from labor.

276. The right to land and materials.—A question of much delicacy and difficulty remains to be noticed in connection with the rights of property—a question which has already attracted serious attention, and which may hereafter

become a source of serious disturbances. This question relates to the gifts of nature. It has been agreed that these gifts, including land, air, water, and all the materials which nature provides, are not themselves property till they are in some way touched by the hand of labor; yet it must be remembered that they are the necessary conditions of productive labor. Without materials, labor is powerless to produce any thing valuable.

Nature's gifts, though free, are limited in amount. There is a definite quantity of land, which can not be increased; and every acre of it that is taken by any one, leaves so much the less for the occupation of others. It is a supposable case that all the land, in some one country at least, may fall into the hands of a few wealthy men. In England, with a population of 35,000,000, less than 1,000,000 of men own all the land; and deducting those who possess merely city or village lots of less than one acre each, 269,547 land owners, or a little more than a quarter of a million, hold the farming lands; while 5,000 owners possess fully one half of these lands; and the tendency is to steadily lessen the number of land holders, since the wealth made in other employments seeks the safe and honorable investment of lands. In Ireland, with a population of nearly five and a half millions, 32,572 owners hold the farming lands.

Is there a necessary limit beyond which men can not be permitted to monopolize the soil and raw materials of the globe? This question begins to force itself upon the attention of mankind.

To us, in this country, with its hundreds of millions of unoccupied acres, and its inexhaustable forests and mines, the question seems far away; but in England and Ireland it is near at hand, and the English government has, by its action in Ireland, determined that society, by its recognized agents, may step in between the land holder and his tenant, and put a limit to the property right of the land-owner in the land. The Parliamentary Commissioners fix the rents which the

landlords may demand, and which the tenants must pay, for the use of the soil.

The doctrine advocated by such economists as Henry George (in "Progress and Poverty") and by Proudhon (in "Qu'est-ce que la propriété"), who deny the right of property in land, and would have the soil held by the government as a common possession, involves a serious fallacy in its discrimination between land and other material gifts of nature. Land, it may be granted, is the most important of all materials, not only from its amount and its necessity to food production, but also because the occupancy of some part of it is a need of every being that lives upon the earth's surface. Every man must live and walk upon the land, for at least some part of his life. But all production of material wealth involves the appropriation of some of nature's gifts. In every article of value there is a basis of material substance which belonged, originally, equally to the whole human family, or at least as much to all as to any. It is the primary condition of productive labor that it shall be permitted to take from the common stock, and appropriate to private use, the materials it needs for its fabrics; but it is to be remembered that it takes that which has commonly no utility to change it into something useful. To refuse materials is to forbid labor; and to deny to labor its right of property in its products on the ground of the common right to the materials used, is to subject a higher and useful right, that of the laborer to himself and his own activities, to a lower and doubtful one, that of mankind to the crude materials.

The remedy for the inequality of property is not to forbid all property. "Suicide is not a remedy." The safeguard against the final catastrophe which such economists seem to fear, is to be found in that final paramount claim which society has to life and to its conditions, and which it will not be slow to exert when the occasion demands, as in the case of the English Parliament in its treatment of the Irish land ques-

tion. One may not be able to say beforehand what society will or should do, but it is certain that, in the last resort, men will, by reformation or revolution, rectify the wrongs which creep into human policies, and which become at last dangerous to the common safety. The right of self-preservation in man and society overrides all other rights.

277. The nature of property.—In the discussion of value, it was shown that ownership was one of its constant and necessary elements. The very exchangeability or purchasing power which some economists so much insist on, and claim to be the essence of value, presupposes and depends upon ownership. Without ownership there can be no rightful transfer or exchange of goods; and exchange, if made without ownership, confers no right.

In our inscribed triangle of value (see page 40), we have shown that value—and we include in this statement every form and object of value from a pin to a palace—presents three aspects; its utility looks forth towards the human wants it is fitted to satisfy; the effort required in its production relates it to the world of work, by whose agencies it can alone be produced or replaced; and, finally, its ownership puts it in the world of wealth,—constitutes it property, and counts it among the things possessed by mankind.

In values looked at as property, this fact of ownership is the most conspicuous of all. The whole discussion thus far made in this chapter, shows the question of ownership principally in sight. The right of property is the right of ownership and all that ownership implies. We may, therefore, properly define property as goods possessed by an owner.

It was a strange mistake of an American economist of some reputation, who affirmed that Robinson Crusoe, on his island, had no property, because there was no one there with whom he might exchange his goods. By the same rule he might have affirmed that the products of a great mill are not property while they lie in the mill, remote from market, or are on

their way across the ocean, because that then and there, where they happen to be, there is no market, and no owner to exchange them. If the owner chances to come on board with a customer, they immediately become property. A wonderful transformation! He apparently does not see that exchangeability presupposes all the real elements of property—usefulness, difficulty of production, and ownership.

278. Forms of property.—Material.—Property has as many forms as there are classes of valuable goods. The chief economic division is into material and immaterial property, the former including all goods that have a material substance as their basis, and the other consisting in valuable rights, franchises, and privileges.

The law divides all material goods into realty or fixed property—property fixed in place as houses and lands; and personal or movable property, including all not fixed. This division, taken in a large sense, has some economic advantages as helping to show some of the economic differences between the two classes.

Fixed property, including land and all its ameliorations, and the structures erected upon it, can only be used or sold without removal. It knows no distant market, and suffers no charges for transportation. It fears no robbery, and commonly changes but slowly in its values. It is made up, chiefly, of nature's gifts, and derives its chief utility from the control it gives over the producing energies of nature. It ministers mainly to the vital wants of mankind—the demand for food and shelter, and, except in cities and their vicinity, it is liable to little fluctuation and to slight decay or danger of destruction. It becomes thus a favorite form of investment for the surplus wealth gained in the more remunerative pursuits.

Movable property is much more varied in character. It includes the innumerable classes of manufactured goods, and the gathered and transformed products and fruits of nature.

These goods usually require transportation to distant markets, are exposed to the risks and charges of transportation, and require for their storage and distribution the skill, labor, and capital of a host of mediaries or middle-men, whose labors and profits add immensely to the original cost. They appeal largely to the less constant desires of mankind, and take their values from the artificial and perishable forms given by human art and labor. Short-lived, they demand large profits to induce their perpetual reproduction, but are commonly unsuited to permanent investment.

All material property is subject to loss and decay. Even land, left without care, becomes infested with weeds and noxious or cumbering growths, which lessen its value and require new labor to restore it to its productive condition. The less permanent forms of property decay or lose value still more rapidly. The wealth of the world is maintained by being constantly reproduced; poured into the Segment of Wants, it reappears from the Segment of Work.

The grand aggregate of the wealth of the world can not be even approximately known. Estimates of the wealth of some of the more civilized peoples have been made, and we borrow from a recent work the following statements of the wealth of a few of the leading nations in 1880:

The wealth of Great Britain . . .	\$44,800,000,000.
The wealth of the United States . .	39,400,000,000.
The wealth of France	37,085,000,000.
The wealth of Germany	30,375,000,000.
The wealth of Russia	17,700,000,000.
The wealth of Austria	15,250,000,000.
The wealth of Italy	9,300,000,000.
The wealth of Spain	6,865,000,000.
The wealth of Holland	5,650,000,000.
The wealth of Belgium	4,700,000,000.
The wealth of Turkey	3,800,000,000.
The wealth of Sweden and Norway .	3,690,000,000.
The wealth of Canada	3,180,000,000.

In the great aggregates of material wealth, the fixed property tends to increase, relatively, faster than the movable, both because more durable and because attracting investments. In 1880, the value of farms in the United States was over \$10,000,000,000. If we add to this the real estate of cities and villages, and the capital invested in manufactories, we shall find that it largely exceeds the entire amount of personal or movable property. In 1874, the entire taxable property of Massachusetts was \$2,164,398,548, of which \$1,289,308,763, more than one half, was real estate. In 1880, the total valuation of property of all sorts, in the state of Ohio, was \$1,545,746,600; of this the real estate amounted to \$1,102,677,704, the personal property to only \$443,068,896.

279. Immaterial property.—The older economists were disinclined to allow the existence of any property except that which was found in material forms. They could not conceive of values which had no visible substance or local habitation. They were familiar with valuable rights and privileges, but did not count them as property. A more careful analysis of the nature of property has led men to see that intellectual labor is also productive of values, and that these values acknowledge the natural law of ownership as well as those found in material products.

Of the several classes of immaterial or intellectual property, the most common are copyrights and patent-rights.

A copyright is a legal recognition of the property interest which an author has in the book he has written, or the picture, chart, map, or other literary or artistic product of his labor.

The manuscript in which he has recorded his thought-products, is a material thing, and the author has the same right to it that a hatter has to the hat he has made. He may keep it or sell it; lend it for a price, or destroy it altogether. No one will question his perfect property-right over the manuscript he has written. Copyright is simply the right to make

copies of his book or to allow others to make copies. As these copies can be made cheaply and in great numbers by the art of printing, and the printed copies are more desirable, in general, than the original manuscript, this right of copying becomes very important to the author. His work may have cost him years of hard and difficult labor; but from the moment that printed copies of his book appear, his own manuscript becomes almost worthless. It is to his right to make copies that the author must look for any adequate reward for his labor. Modern governments have justly recognized this right of the author, and have made laws to secure to him the copyright.

From considerations of public good, as it is claimed, most governments limit this right to a fixed number of years. These laws seem based upon the idea that copyright is of the nature of a monopoly, and should, therefore, be limited in duration. Considering copyright as property, this legal limitation of its enjoyment is as unjust as it would be to limit the time during which the builder of a house may claim it as his own.

The first copyright law in England was enacted in the reign of Queen Anne. In the United States, the constitution authorizes Congress to make laws securing copyrights and patent-rights as a means of encouraging art and learning. Under the present law, passed in 1870, the United States allows to authors the privilege of copyright for a period of twenty-eight years, and gives to the author himself, his widow or children, the right to renew it for fourteen years in addition. In England, the copyright endures for forty-two years, or for the life-time of its author and seven years beyond, or more, if a longer time is necessary to make up the forty-two years.

280. Patent-rights.—A patent-right is the right of the inventor, guarantied by letters-patent issued by the government, to the exclusive manufacture, sale, or use, of his invention. Patents in the United States run for seventeen years

without privilege of renewal, and may be obtained by the inventor for any new and useful "art, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Thus it applies to processes, machines or parts of machines, designs, chemical compounds, and medicines.

Patent-rights are looked upon by most nations with much less favor than copyrights, and some countries refuse to grant patents at all. But it is evident that the inventor has a property-right in his invention, and that the securing of this right tends to promote the activity of invention.

The inventor usually secures the benefit of his invention by a sum called a royalty, paid him by the manufacturers on each machine or article manufactured under his patent. To the manufacturer it serves as a monopoly-right, shielding him from competition. Many inventions owe their final success and use more to this privilege guaranteed to the manufacturer than to the merit of the invention itself. Few out of the thousands of patents issued annually prove remunerative to the inventor; but, in extraordinary cases, as in that of the Howe's sewing-machine, and in the vulcanized rubber goods, the fortunes made by the inventors are enormous.

No census can be taken of the property existing in copyrights and patents, because, being in the nature of rights, their value depends entirely upon the use of them. As economic facts they are of much importance, absorbing large amounts of skill and labor, controlling production and manufacture, and giving new turns to industry.

281. Franchises.—There is another species of immaterial property, consisting in the franchises or privileges granted by governments to individuals, or to corporations. In ancient times these franchises were very numerous and were frequently given by monarchs to favorites, or sold as a means of raising revenue. In modern times they are conferred with more care, and usually to secure the construction of some public

work, or the performance of some public function which it is supposed will not be undertaken without such franchise. Thus, the privilege is granted to the national banks to issue bills to be circulated as money; or to a railroad company to construct and operate a given line of railroad, free from immediate competition. The value of the franchise, in these cases, is evidently a product of the presence and work of society; and government, acting in the place of society, sells the privilege for the benefit which it is supposed will result to society from the work done. That these franchises are to be considered as a species of property is evident from the fact that they are often sold by the original corporators before a stroke of work is done under them. Railroad charters have frequently been thus sold in this country.

The good-will of an established business is of the nature of a private franchise, the value of which has been created by the long services of the tradesman to a given circle of customers. This good-will is often of great value, and, in the case of an old and well established newspaper, is sometimes the most valuable part of the property. The seller of good-will agrees to leave the business, and thus, as far as possible, turns his clients, customers, or subscribers over to the purchaser.

Debts, or the notes, bonds, or other evidences of debt, are usually counted as property; but it is clear that debts are but claims of ownership on property supposed to be in the hands of the debtor. If A buys a farm from B, paying \$5,000 in cash, and giving a bond and mortgage for the \$10,000 yet due, the bond does not increase the amount of property in existence; it only shows that the real ownership of so much of the value of the farm still remains in B, the original holder. The total interest-bearing debt of the United States outstanding July 1, 1881, and represented by government bonds, was \$1,639,567,750. These bonds were held as property by those who had purchased them; and to them they stand as so

much wealth, which they may keep or sell. But these bonds represent only an ownership of so much of the taxes or taxable property of the country, which the government engages to take and turn over to the bond-holders according to the terms of the bonds. These bonds neither increase nor diminish the volume of the nation's wealth; they simply show ownership.

This ambiguity of ownership has its chief disadvantage in the double taxation it induces. The holder of a mortgaged farm, for example, is taxed for the entire assessed value of the farm, though he may be the owner of only half its value. Then the holder of the mortgage is taxed for his interest in the farm, or, as it is generally put, for the mortgage he holds; and so the farm is taxed double on that part of its value covered by the mortgage.

CHAPTER XXV.

THE DISTRIBUTION OF WEALTH.

282. Forces of distribution.—Wealth tends not only to constant fluctuations, but also to incessant movement. Like the tides and currents of the ocean, it obeys great attractions from above and from beneath, and yields to its surroundings as the waves yield to the resistless pressure of winds and coast-lines.

The forces which cause the grander movements of wealth are to be found :

1. In the personal desires and business needs of men ;
2. In the general conditions and movements of communities and nations ;
3. In the agencies and accidents of nature and history.

The intense desires of men to amass property, to employ it profitably in business, and to secure it in safe and profitable investments, act as a complex and incessant force to draw wealth from hand to hand ; to carry it to this place and that, and to gather it at the promising points of investment. Under the action of this set of forces, property is constantly changing hands and flowing to remote localities.

Communities and peoples influence the flow of wealth by their civilization, by their legislation, and by all the influences and characteristics which affect the safety and determine the enjoyment of wealth, or give honor and dignity to industry. Good morals, liberty, high intelligence, and respect for labor draw wealth as magnets draw iron.

Natural accidents—like the potatoe-rot in Ireland, the phylloxera in the wine-growing regions of France, the presence of a sweeping epidemic like the yellow fever in the South, a season of drought as in India, floods and earthquakes, or wars and riots—often change for a time, if not permanently, the movements of wealth.

283. Classes of distribution.—We may properly distinguish between four great classes of distributive movement; as follows:

1. The primary distribution to the several producers, and especially the division of products between labor, capital, and the pay or profits of management.
2. The secondary movement or distribution made by the owners to consumption or to investment.
3. The territorial movement from place to place, as from city to country, or from country to city.
4. An international movement of wealth between nations or countries.

All the forces enumerated in the preceding section will be found at certain times affecting each of these four distributions.

284. Primary distribution.—Values are produced by the application of capital and labor to nature's gifts. If the capital and labor are furnished by the same owner, the product evidently belongs to him. But in most cases, in the modern industries, the capital is furnished by one party, and the labor is performed by others; and frequently the work is planned and directed by a third party. In these cases, the resulting products belong to the several parties contributing to the production; and to each in proportion to the cost, or value, of his contribution.

Labor, capital, and management, each claims its share of the new values produced by their joint efforts. But this is on the supposition that they are all partners in the work, that they all share in the risk of the enterprise, and that they have

not, in any other way, received the price or value of their contribution out of the aggregate product.

Commonly, the laborer is unprepared to share any risks, or even to await the completion of the final products; and often the capitalist declines to run any risks, and prefers a surer, if also a smaller, return in some fixed sum paid for the use of capital. Hence, in the modern industries, capital is frequently borrowed, and labor is commonly hired. The laborer accepts wages in place of his share of the products, and capital takes its share in interest money. If the manager is also a hired and salaried agent, he, too, takes his legitimate share of the values he has helped to produce, in his wages or salary.

In most great industrial enterprises, the use of lands and buildings is involved. These, too, enter usefully into the production; their values are in part consumed, and should reappear in the new values produced. The share which thus goes to land and buildings is taken in the form of rent. It is true that, in general, the land and buildings may be considered a part of the capital invested in the plant; but in agriculture, the land holds so prominent a place, that men have chosen to recognize its rent as differing in its methods of computation, if not in its principles of right, from other forms of capital.

Should the new products chance to exceed the several sums thus set apart or paid for wages, interest, and rent, this surplus, whether little or much, evidently belongs as profit to the party, whether manager, or laborer, or capitalist, or stockholder, who assumed the risk. If all shared the risk, it belongs to all; but if only one party out of all assumed this risk, after paying the others their full and rightful shares, he may take as legitimate profit all that remains. If there had been a deficiency, he would have been held to make it good.

The primary distribution of wealth, therefore—the distribution to the original producers and owners,—is into *wages*, including all salaries and sums paid for services; *interest* on cap-

ital used or invested; *rent* on lands and buildings; and, finally, *profits* which may be regarded as the pay for risks. All of these enter into every new article of value which is produced, whether they come all from one hand or from many.

285. Wages.—Two theories.—Wages may be regarded either as a share of products, or as the price of labor. Both views are common; and both represent a truth.

This double aspect of wages grows out of the double character of labor or working power. First, looked at as a producing effort, it is seen to enter into its product, and to remain there incarnate and crystallized, as it were, in its result. It claims the result as its own offspring and possession. But, in the second aspect, labor is simply laboring-force without aim or object, offered in the market, and sold for its market price to any one who desires to employ it upon his own account. The employer looks upon and uses the hands and strength of the laborer as he uses his own—to accomplish any piece of labor he has planned. The laborer counts himself to have sold this use of his laboring power, for a stipulated price which is entirely independent of the product to be obtained. In that product he takes no risk, and claims no part; he works for the wages and not for the product, and he rightly regards that product as belonging to the man who planned it, and furnished the material and labor for it.

Both theories of wages are in common use. It is not uncommon to find men working “upon shares,” as it is called—that is, agreeing to receive as their wages a certain share of the products. In some of the simpler forms of mining, in fishing, in chopping, and in gathering the fruits of the orchards, the laborers frequently work for a specified part of the products. In these cases, the laborer does not ordinarily look upon himself as selling his labor. He simply takes his rightful share of products, leaving to the owner of the mine, the forest, or the orchard the share which rightfully belongs to him. But the more common usage is for the laborer to

seek an employer who has work to be done, and offering his labor, for a fixed wage, to do what the other directs.

286. Piece wages and time wages.—Labor may be sold to accomplish a given work, or for a given time. In the first case, the laborer agrees to do a certain thing for a given price; in the other, he agrees to work a certain time for a stipulated sum. The first includes what is known as “working by the piece;” the second is work by the hour, the day, the month, or the year, according to the time sold. Wages paid for the former are called piece-wages, and those for the latter, time-wages.

In piece-work, the efficiency of labor is more fully recognized and kept in view, and, economically, it is found more valuable and productive. The laborer surrenders himself less fully to the direction of another, and assumes less of the attitude of the mere machine. He looks upon his labor as his own, and consciously puts it into his products; and in the end he seems to offer his work, and not himself, as the exchange for the wages paid him. If he has superior skill and quickness, he profits by them to produce more and better products, and to gain better wages thereby.

In time-work, the laborer surrenders himself fully to the will of his employer, for the time agreed upon, to do whatever he is directed, under such limitations as may have been established by custom or by the contract. He agrees to use, within the prescribed hours, whatever force or skill he may have, upon whatever work is placed before him, and is not at all responsible for the choice of the work nor for its economic result. If he takes any personal interest in his work and its products, it is either because the artist spirit in him will not allow him to be indifferent, or because he recognizes that a certain measure of effectiveness in work will enable him to sell his labor more readily, and, perhaps, command higher wages. In time-work, as the labor is more absolutely sold, so the control and use of it is more absolutely held by the

purchaser. In many employments this is more important than the superior efficiency of piece-work, and the employer voluntarily assumes something more of risk for the sake of the more complete control. He wants his man, like his machine, to obey strictly his will; and he relies upon the perfection of his system to make both man and machine do their best.

Time-wages and piece-wages, though thus differing in the theory of their earning, are both, in the last analysis, to be regarded as the share which labor produces, and takes for its own, in the new values created. The right to take wages is the right of labor to its own products.

287. The share of wages.—To determine the share of production which should go to the payment of wages, is one of the most difficult problems of practical economy. And the difficulty is increased by the fact that wages have mostly ceased to be considered as a share of the product, and are now looked upon as the price of labor. Most of the economists are disposed to count labor as a commodity, offered in the market, and obeying the ordinary market laws of supply and demand. When work is scarce and laborers are abundant, wages will be low; but when work is abundant and laborers are in deficient numbers, wages will be high. Such is the common account of the matter, and, within a small range of very common labors, the account is near the truth; but, taken on the largest scale, there are other factors which enter into the problem, and which modify largely the results. As a commodity, labor has two features which distinguish it radically from all other commodities. 1. The labor of to-day, if not sold to-day, can not be kept till to-morrow. To-day's labor-power, if not sold and used to-day, is lost. To-morrow can only sell and use its own labor-power. 2. Labor is, in general, the laborer's only commodity; its sale and employment are his only means of sustaining life. He must labor in order to live. If his work is to be wanted next month, or next year, he must be sustained till that time, and must

be employed in order to be sustained. From these features of labor, it results that the laborer is, in general, under a strong necessity to sell his labor, and to sell it for enough to meet his wants; and, on the other hand, there is an almost equally strong necessity upon the employing class to provide work for laborers. For example, the great iron and cotton industries can not afford to lose from the country the large supply of iron-workers and cotton-spinners.

Many other circumstances and conditions interfere with the distribution of that part of wealth which goes to labor as wages, and with the rate of wages. The competition of masters and of men; the state of the markets; the supply of capital; the opening or closing of contemporary industries; the variation in prices of the goods produced by the labor in question; the fluctuations of foreign demand for goods or for men; the fruitfulness or scarcity of the agricultural season; the presence of war or peace; great social or industrial disturbances, such as labor-strikes or lock-outs; the discovery of some new and important source of wealth and field of labor, like the discovery of the gold mines of California, in 1848; and especially the great financial and industrial crises, which come like periodic storms, and sweep over the commercial and industrial world, and which usually break up the labor market, turn thousands of laborers partly or wholly out of employment, and push wages down to the lowest living point. It is not difficult, in any given case, to trace the fluctuation of wages to its proper source; but it is rarely possible to apply any remedy to save labor, for the time, from the consequences of the causes then operating.

The competition between labor, capital, and management, for the lion's share of the wealth produced, involves principles of Political and Social Economy which take it mainly out of the domain of the pure economic science. The remedies proposed to secure a fairer and more equitable distribution belong to two great classes—those of *combinations* and those

of *coöperation*. The former work through trades-unions and other labor associations which combine labor against capital; the latter, through coöperative organizations which seek to combine labor, capital, and management in the same hands, and thus prevent their competition in the distribution of products. The discussion of these remedies belongs to another branch of the subject.

288. What share labor gets.—The proportion that labor now takes of the new production can be seen by a few examples. The following statements are collected from the census bulletins of the census of 1880:

INDUSTRY.	CAPITAL INVESTED.	VALUE OF MATERIALS.	VALUE OF PRODUCTS.	TOTAL WAGES.	PER CENT OF NET PRODUCT
Iron and steel.....	\$230,971,884	\$191,271,150	\$296,557,685	\$35,476,785	33.6
Salt manufactures.....	8,225,760	22,005,576	4,817,636	1,256,113	44.6
Glass manufactures.....	19,415,599	7,991,303	21,013,464	9,112,301	69.9
Coal-mining, anthracite	150,161,196	6,439,437	40,331,981	21,680,120	61.
Coal-mining, bituminous	101,996,037	4,851,093	52,316,968	32,535,460	68.5

If from the total annual products, in each case, we take the cost of materials used up in the work of the year, we may easily ascertain the percentage of the net products which went to labor in the shape of wages. Thus, in the iron and steel industries, in which the capital and material largely exceeded the gross products, 33.6 per cent went into wages; the remainder went, of course, into interest, rent, royalty, taxes, incidental expenses, and profits. In the salt manufactures, labor took 44.8 per cent of the net products; in the glass manufactures, in which capital and materials hold a less proportion to gross products, labor took 69.9 per cent. In the anthracite coal-mining, labor took 61 per cent; in the bituminous coal-mining, it took 68.5 per cent of the net production. The wages per man will be found to depend on the skill required in the work.

The following table, giving wages per week of several classes of laborers, in different countries, is borrowed from the report of the state department on the state of labor in Europe, 1878:

OCCUPATION.	BELGIUM.	FRANCE.	GERMANY.	ITALY.	ENGLAND.	SCOTLAND.	NEW YORK.	CHICAGO.
Brick-layers...	\$6.00	\$4.00	\$3.60	\$3.45	\$8.12	\$9.63	\$12.00 to \$15.00	\$ 6.00 to \$10.50
Carpenters.....	5.40	5.42	4.00	4.18	8.25	8.12	9.00 to 12.00	7.50 to 12.00
Gas-fitters.....	5.40	.....	3.65	3.95	7.25	8.40	10.00 to 14.00	10.00 to 12.00
Masons	6.00	5.00	4.30	4.00	8.16	8.28	12.00 to 18.00	12.00 to 15.00
Painters.....	4.20	4.90	3.92	4.60	7.25	8.16	10.00 to 16.00	6.00 to 12.00
Plasterers	5.40	.....	3.80	4.35	8.10	10.13	10.00 to 15.00	9.00 to 15.00
Plumbers	6.00	5.50	3.60	3.90	7.75	7.13	12.00 to 18.00	12.00 to 20.00
Bakers.....	4.40	5.55	3.50	3.90	6.50	6.60	8.00 to 12.00	8.00 to 12.00
Blacksmiths...	4.40	5.45	3.55	3.94	8.12	7.04	10.00 to 14.00	9.00 to 12.00
Book-binders. ....	.....	4.85	3.82	3.90	7.83	6.50	12.00 to 18.00	9.00 to 20.00
Brass-found's .....	.....	.....	3.20	5.49	7.40	6.90	10.00 to 14.00	8.00 to 15.00
Butchers.....	4.50	5.42	3.85	4.20	7.23	4.75	8.00 to 12.00	12.00 to 18.00
Cabinet-mak's	4.80	6.00	3.97	4.95	7.70	8.48	9.00 to 13.00	7.00 to 15.00
Coopers .....	.....	7.00	3.30	4.35	7.30	6.10	12.00 to 16.00	6.00 to 15.00
Coppersmiths .....	.....	.....	3.30	3.90	7.40	7.10	12.00 to 16.00	15.00 to 20.00
Cutlers.....	.....	4.63	4.00	3.90	8.00	6.25	10.00 to 13.00	15.00 to 20.00
Engravers.....	.. ..	.....	4.00	4.00	9.72	8.75	15.00 to 25.00	9.00 to 30.00
Horseshoers...	.....	5.40	3.25	3.50	7.20	7.00	12.00 to 18.00	15.00 to 25.00
Mill-wrights...	.....	.....	3.30	4.95	7.50	7.50	10.00 to 15.00	12.00 to 20.00
Printers.....	.....	4.70	4.80	3.90	7.75	7.52	8.00 to 18.00	12.00 to 18.00
Harness-mak.	4.80	5.00	3.60	3.90	6.80	6.15	12.00 to 15.00	6.00 to 12.00
Sail-makers...	.....	.....	3.30	3.90	7.30	6.33	12.00 to 18.00	12.00 to 15.00
Shoe-makers.. ..	.....	4.75	3.12	4.32	7.35	7.35	12.00 to 18.00	9.00 to 18.00
Tailors.....	.....	5.10	3.58	4.30	7.30	7.00	10.00 to 18.00	6.00 to 18.00
Tinsmiths.....	4.80	4.40	3.65	3.60	7.30	6.00	10.00 to 14.00	9.00 to 12.00
Laborers.....	3.00	.....	2.92	2.00	5.00	4.50	6.00 to 9.00	5.50 to 9.00

As real wages, or wages measured in the goods which the laborer would get for his work, differ from nominal or money wages in proportion as the prices of necessities which wages must purchase vary, we collect, from the same reports, the following statement of prices of the necessities of life in several of the countries named:

ARTICLES.	BELGIUM.	FRANCE.	GERMANY.	ITALY.	ENGLAND.	NNW YORK.	CHICAGO.
	CTS.	CTS.	CTS.	CTS.	CTS.	CTS.	CTS.
Bread, per pound	4 to 5	3	3 to 7	6	3½ to 4½	4 to 4½	4 to 4½
Flour, per pound	.....	4	5½	10	3½ to 4½	3 to 4	2½ to 4½
Beef, roast, per pound	20	22	22	20	22	12½ to 16	8 to 12½
Bacon, per pound	18	20	20	22	12 to 16	8 to 10	7 to 12
Lard, per pound	20	20	21	22	15 to 18	10 to 12	6 to 10
Butter, per pound	20 to 50	25	22	28	29 to 38	25 to 32	16 to 40
Potatoes, per bush.	56	50	50	1.15	1.12½ to 2.00	1.40 to 1.60	60 to 80
Milk, per quart	.....	.....	4	7	6 to 9	8 to 10	3 to 6
Sugar, per pound	15 to 20	.....	11	8½	5½ to 9	8 to 10	7 to 10
Coffee, per pound	30 to 40	30	35	32	28 to 42	20 to 30	16 to 40
Soap, per pound	.....	.....	10	4	5½ to 9	6 to 7	3 to 8

289. Wage-fund and wage-rate.—Almost interminable discussions have been made to show the causes which affect the rate of wages, and the reasons of differences between wages in different employments and in different countries. It has been a favorite doctrine among one school of English economists, and some Americans, that there is a certain nearly fixed sum out of which all wages are paid, and which constitutes, therefore, what may properly be called the Wage-fund. Even J. Stuart Mill seems to believe in the existence of such a fund, which he describes as “that part of circulating capital which is expended in the direct purchase of labor;” to which must be added, also, “all funds which, without forming a part of capital, are paid in exchange for labor, such as the wages of soldiers, domestic servants, and all other unproductive laborers.”

“There is supposed to be,” says Mill, elsewhere, “at any given instant, a sum of wealth which is unconditionally devoted to the payment of wages of labor. This sum is not regarded as unalterable, for it is augmented by saving, and increases with the progress of wealth; but it is reasoned upon

as at any given moment a predetermined amount. More than that amount, it is assumed, the wages-receiving class can not divide among them; that amount, and no less, they can not but obtain."

As the wage-fund is claimed to be, at any given time, a fixed amount, these economists assume that the wages, at such time, will depend upon the number of laborers among whom this wage-fund is to be divided. General Walker has sufficiently answered the wage-fund theory by showing that wages are paid from production and not wholly from capital; and that wages will vary with changes in the facilities of production, even if capital varies in the other direction. But the wage-fund theory fails from a disagreement among its advocates as to what the fund is made up of, and from the obvious fact that if such a fund can be conceived as theoretically existing, it can not, at any given moment, be determined, and can not, therefore, influence the demands of laborers and employers, who act without any possible knowledge of its amount.

290. The wage limits.—Wages evidently fluctuate between two extreme limits, beyond which they can not permanently pass, though they may overstep these limits, in particular cases, for short periods of time.

The lowest limit, the limit of least wages, is that below which the laboring population can not continue to exist and keep its numbers good. This limit will evidently differ with different races and in different climates. This limit might, evidently, be overpassed for a time, but the perishing of a part of the laboring population would diminish the labor supply and raise the wages again to a living rate. Ricardo held that wages are always tending towards this minimum; and Turgot held that, in the long run, wages would always settle at the living point.

The highest limit, the limit of greatest wages, is that beyond which goods can not be produced without loss. Evidently,

no one will continue long to employ labor when the products will not pay the cost of production. The excitement of competition and speculation may, for a time, crowd wages above this point, but they can not remain there.

Between these limits there will be incessant fluctuations, and the free movement of labor, especially among intelligent populations, will tend to prevent either extreme from being exceeded or even reached.

291. The share of capital.—Two theories.—Capital has already been shown to be an instrument of production. As materials, or tools, or supplies, it enters into all production, and hence, justly, claims a share of the products.

Capital may be used by its owner; or its use may be sold to another. In this it precisely resembles labor; and the same two theories of distribution which apply to the wages of labor, will be found to apply to the interest of capital. The owner of capital may use it himself, with his own or with hired labor, and take as his own whatever his capital shall produce; or he may offer his capital in market, to be loaned for the current rate of interest, and receive this interest in place of his share of the products. The purchaser or hirer of the capital assumes all risk of its employment, pays the price agreed on, and takes the net proceeds as his own profits.

Capital differs, however, from labor in several important particulars:

1. It may increase much more rapidly than population, and consequently more rapidly than is possible for labor to increase.

2. Its demands have no life limit below which it can not continue to exist. The rate of interest may fall to mere cost of safe keeping without impairing the integrity of capital.

3. Capital, though ceasing to be capital, remains wealth, and may still serve to support its owner till it is wholly spent or consumed. The life standing behind labor must be nourished by something else than the mere laboring power, while this remains idle. The life standing behind capital may feed

upon the capital itself while the capital endures, and this may be for years. In any contest of endurance between capital and labor, capital has this advantage.

4. Labor has this advantage that it can do something without capital; it can, at least, collect the free fruits of nature. Capital, without labor to use it, can do nothing. Hence, in the long run, labor increases in power, while capital diminishes relatively. Labor represents man; but capital represents only things. In the struggle for existence, man rises and things fall. The rate of interest has steadily declined, in the best cases of modern civilization—among the leading industrial peoples; and the wages of labor have as steadily risen. These facts are full of significance; and they are all the more significant because directly opposed to the theories of the old economists, like Ricardo and Turgot.

292. The rent share.—As has been shown, lands and buildings aid in the production of values, and must, therefore, share in the primary distribution of the products. This share is usually called rent.

In manufacturing and commercial industries, lands are commonly useful only as sites, or spaces where the operations can be carried on. They are to be counted as a part of the plant, and as one of the forms of capital; and, as such, the law of distribution is the same as that shown for other capital, modified, indeed, by the durability of the lands. The same two theories prevail, by one of which the rent is a share of products, while by the other it is the price of the use of lands.

In agricultural industries, the soil is an important agent of production, and must be counted partly as nature's gift and partly as a machine prepared and put in operation by the skill and labor of man. No important difference in principle can be found between this and any other machine constructed by man, though it differs largely from other machines in magnitude and fixity. A good farm, like a loom, is made from

nature's materials, by the application of labor aided by tools; it can only be used by labor and skill; it wears out in use, and needs constant renewal and repairs. It is only a machine of more varied production than the loom. The law of rent would seem, therefore, to be not necessarily different from that of the interest or rent paid for the use of the loom.

In many parts of the United States, farms are rented for a fixed share of the crops, commonly one third. Under the "metayer" system, prevalent in Italy and France, a share of the products, amounting commonly to one half, is paid as rent for the land and stock. All of these systems presuppose a laboring and a land-holding class; or, in other terms, the land is furnished by one party and the labor by another. Under the cottier system, in Ireland, a money rent is paid, only indirectly based upon the products of the land. The cottiers bid for the use of the land, and the rent they can pay is limited only by the surplus they can produce beyond the meager support of their own families. The farming system of England also is that of a money rent, fixed for a number of years by the lease given by the land-holder. Money rents are also common in the United States, and are always regarded as given for the use of the land.

Rent, like wages, has two extreme limits, beyond which it can not pass permanently. The highest limit is that beyond which the surplus of products, after paying the rent, will not support the labor. This is upon the supposition that the land is cultivated for its products, and that the laborer has no other means of support. Land used for a home, for pleasure, or for other purposes, may bear any rent whatever which the means of the occupant will allow. But land cultivated for profit must, evidently, pay its cultivator to the extent that he may keep working, or it will be abandoned.

The lowest limit of rent is that below which the land can not be kept in a productive condition. This is upon the supposition that the improvements and betterments—the fencing,

the fertility, and the necessary buildings or other structures—are paid for out of the rent. These constitute, as we have seen, the real capital in farming lands, and when these disappear the land relapses to a state of nature. The occupant of the land may agree to keep the land in good condition. In this case his care of the land is part of the rent he pays. If he receives the use of the land on the simple terms that he keep it in condition, then the whole rent may be counted as absorbed in the preservation of the owner's capital. When the occupant is no longer willing to take the needful care of the property for its use, the land lapses into the valueless natural state, and no longer yields returns sufficient to support the labor.

293. The Ricardo Rent Theory.—The celebrated Ricardo theory of rent, propounded first by a Dr. Anderson, at the end of the last century, and advocated, in this century, by Mr. Ricardo, Mr. Malthus, and Sir E. West, has been accepted by J. S. Mill and many other English and some American economists. It is expressed by Mill in these terms: “The rent which any land will yield is the excess of its produce, beyond what would be returned to the same capital if employed on the worst land in cultivation. This is not, and never was, pretended to be the limit of metayer rents, or of cottier rents; but it is the limit of farmers’ rents. No land rented to a capitalist farmer will permanently yield more than this; and when it yields less, it is because the landlord foregoes a part of what, if he choose, he might obtain.” It is elsewhere stated, by the advocates of this theory, that when the best land alone needs to be occupied, it will pay no rent. When the next grade of land comes into use, the best will pay rent equal to the excess of its products over those of the second grade; and so on, as third and fourth grade lands come into necessary use. The theory may be illustrated by the following diagram, in which each line represents a successive grade of land, and the lengths of the lines represent

the degree of fertility, or producing power under a common cultivation. As A, the secant line of cultivation, moves from right to left, it successively reaches the lower grades of land; and the amount of products it cuts off on the left, on each line, represents the rents to be paid by the land next above.

	D	C	B	A
1st grade.				
2d grade.				
3d grade.				
4th grade.				
5th grade.				

At A, the first grade land bears no rent; at B, it bears the rent AB; at C, it bears the rent AC; and at D, it bears the rent AD. At B, the second grade bears no rent; at C, it bears the rent BC; at D, it bears the rent BD. At C, the third grade bears no rent; at D, it bears the rent CD. As soon, in any case, as the line of cultivation reaches a lower grade of land, the grade of land above it begins to bear rent, for the reason given by J. S. Mill in the passage quoted. He assumes that what the poorest land in cultivation will yield is only "the ordinary profit of capital," and that all income above this ordinary profit of capital will be demanded by the landlord and freely paid by the tenant for the rent of the land.

It will be seen that this is really a law for the estimation of rent, rather than the reason for rent itself, though it has sometimes been put forth as such. The real reason for all sharing in the primary distribution of products, as already sufficiently shown, is in the producing power of the sharer.

Evidently, if the products could be secured without the use of the land, no one would consent that the land should take a share of the products under the name of rent or under any other name.

As a rule for the estimating of rent, the Ricardo theory may have some value, and especially in a land like England, in which the land is almost wholly held by one class and cultivated by another. But it ignores the almost wholly artificial character of fertility and the new and higher agencies of cultivation, which become available as soon as the demand for intense cultivation arises. It does not seem to add any thing to the evident principles stated in the preceding section.

294. The profit share.—An industry may be counted successful in which the products pay fully all wages and salaries, the interest on all capital employed, and the rents, including all wear and tear, of property used. But it is expected that a prosperous business will do more than this; that it will produce a surplus or profit. But as all contributors to the work of production have received their respective shares of the products resulting from their common efforts, to whom does this surplus of profit belong? We have supposed, in this case, that all labor, including that of management, has been paid for at the stipulated price; that the capital has been replaced with its agreed interest, and that whatever was rented has been returned with the proper rent, as stipulated. It is evident that the profit belongs to the parties, whoever they may be, who undertook the enterprise and accepted the risks of it. These may be stockholders, or the capitalists, or the whole body of persons engaged in the work. It is this possible surplus, or profit, which induces the planning and carrying forward of business enterprises, and compensates for the risks undertaken.

Profits have been defined, by J. S. Mill and others, as including the interest on capital, the pay for superintendence and management, and the compensation for risk; but it is evident

that, strictly used, the term profit should include only the last of these. The four elements, labor, capital, management, and risk, may, evidently, each be furnished by separate parties, as in the case of the great corporations which borrow much of their capital, employ salaried superintendents, hire the labor, and themselves assume the risk. In the case of the business man or the partners of a firm, who plan and manage their business, furnish the capital, and hire the labor, doubtless the management and capital share the risk and take the profit, which then may be considered as covering interest, management, and risk. If the laborers should also unite in the enterprise as partners in its risks, putting their wages at risk along with the capital invested, then all parties would share the profits, which, in this case, might be said to include wages, interest, management, and risk.

Large risks demand large profits. No wise man would assume great risks without the chance of making such profits as would cover large losses, in the long run, and still leave a profit. Profit shares in the products of any business in proportion to the risks run. It was shown, in a preceding chapter, that risks imply possible losses, or a certain proportion of actual losses in a long series of similar enterprises. As the successful ventures must be counted on to cover the losses, each successful venture should produce, in its profits, its share of the coming loss.

These four, then—wages, interest, rent, and profit—complete the primary distribution of products, and share between them the whole of each new value added to the world's wealth.

CHAPTER XXVI.

SECONDARY DISTRIBUTIONS OF WEALTH.

295. For consumption and saving.—Wealth having reached the hands that created it—having undergone the primary distribution to laborers, capitalists, and business managers—does not rest there; it begins immediately another movement of secondary distributions. By an innumerable series of exchanges, the values created are converted into the various articles desired by the several parties.

The laws of the secondary distributions are found partly in the natural desires of men, and partly in their surroundings.

The chief division which takes place in the secondary distribution, is into the part to be consumed and the part to be saved. Only among the thoughtful and provident is this division made at the outset, and intelligently; in most cases it is governed by accident, and seems to depend upon chance. Still, it occurs with a certain regularity, and in a definite proportion, when large populations are taken into view. It has been computed that ninety-five per cent of the annual production of wealth in the United States, is consumed within the year in the current support of the population.

296. Classes of consumption.—The wealth consumed may be counted as chiefly carried forward into new production. It may be coarsely subdivided into the following classes of expenditures:

1. The satisfaction of the vital wants, including food, clothing, housing, and care. These expenditures support life,

renew strength, and go to make up the labor-power for the year. It keeps good that great volume of uncounted capital which lies in the muscular and mental force of the active, laboring population; and, in the case of a growing people, it adds to that capital. Only when expended in the support of the dependent classes, including the idle and the unfortunate, may it be counted as lost.

2. Expenditures for personal pleasures, such as are innocent, if not also elevating, in character, including fine dress and equipage, ornament of the person or house, social entertainments and feasts, pleasure excursions, sight-seeing, and shows. These, though often wasteful and excessive, if wisely used, may improve health, stimulate higher tastes and activity, and open new fields of industry for large classes of laborers. They increase the desire and power to labor, and only entail loss when carried to excess. Luxuries, doubtless, consume and destroy large masses of goods; but all luxury is not loss. It often stimulates the production which it consumes, and induces industry which would not otherwise be exerted. Even savages are sometimes made industrious to obtain the luxuries offered them by their civilized neighbors.

Take, for example, a single article of luxury. The silk manufactures imported into this country, in the year ending June 30, 1881, amounted to \$32,377,226.48. The duties paid on these goods raised the cost to more than \$50,000,000. The home production probably nearly doubled this amount. In 1874, the 180 silk manufactories of the United States employed 141,479 operatives of both sexes, and produced over \$20,000,000 worth of silk goods. Were these silks, satins, and velvets, worn by American women, a mere waste of luxury; or did the industries stimulated by it make up for the expenditure of these millions, and leave the country as rich as it would have been had all this silk never existed? The equal steps, by which the refinements of life and the wealth producing industries have gone forward together, amount

almost to proof that these luxuries have in some way increased rather than diminished the world's wealth. Cases of extravagance and loss may easily be found, without doubt, but the economist is concerned only with the grand totality of outcome.

3. Expenditures for personal and public improvement. These include the sums paid for good government, for education and books, for churches, libraries, museums, galleries, lectures, and the whole round of æsthetic, literary, and scientific work. These expenditures entail no loss, but, on the contrary, they enter into the mass of existing goods as a new element of value. They enlarge the value of wealth by enlarging its uses, by increasing the demand for it, and by giving to it greater safety and higher powers.

297. The economic maelstrom.—Expenditures for harmful and vicious pleasures are almost wholly a loss of property, being both a destruction of the values consumed, and a deterioration of the powers of production. Among the most public and conspicuous of these expenditures are to be noted those for intoxicating drinks, for opium, and for tobacco. No more serious drain upon the world's wealth exists than is to be found in the use of these substances.

Taking the total consumption of spirituous liquors, wines, beer, etc., as given in the quarterly report (No. 1, 1881-1882) of the bureau of statistics, and deducting spirits used in the arts, the remainder, at the common retail prices, would show an expenditure, in the United States, for the year closing June 30, 1881, of over \$500,000,000 for intoxicating drinks. Some estimate it much higher than this, and count that it can not fall short of \$1,000,000,000. As an absolute destruction, this would be an enormous loss to the land; but it carries with it loss of time, of health, of morals, and of life itself, that make it of frightful consequence.

The consumption of tobacco, though less enormous in amount, and less injurious to morals and health, must still

be classed among the harmful and useless expenditures. Over 147,000,000 pounds of tobacco, including more than 3,250,000,000 cigars and cigarettes, were taxed for consumption in the United States in the year ending June 30, 1881; and to this amount must be added over \$10,000,000 worth, including cost and duties, of imported tobacco. The cost to consumers probably exceeded \$250,000,000. Thus, into the smoky air and into the spittoons went a sum more than three times as large as the entire annual expenditure for the payment of the 272,000 teachers, and the education of the 15,000,000 school children, in the public schools of the United States.

Add to these items of spirits and tobacco, the millions consumed in opium and in the nameless vices, with the millions lost utterly in fires and floods, and we have before us that economic maelstrom into which goes as into utter perdition, more than one tenth of the entire annual production of wealth, leaving behind only the weakness, the stain, and the brooding discontents which threaten both society and the industries with riots and overthrow.

298. The savings.—The other great stream of secondary distributions of wealth goes into the channels of savings and investments. These savings will seem at first but the fragments gathered up after humanity's feasts; but out of these grow that mighty mass of accumulated values which greets the eyes and fills the balance sheets of the world's gathered wealth. The enormous cumulations of riches which deck the great globe in myriad forms of magnificence and splendor,—of comforts, luxuries, and solid values,—all these, it should be remembered, represent the results of savings. Traced from its beginnings, in the far away springs and rivulets of past industries, all capital is, at the outset, a saving. It is the part of his product which the first laborer saves from his consumption, which becomes capital in his hand. The savings of the first day unite with the savings of subsequent days,

and, multiplying the power of production, increase the opportunity of saving till the accumulated savings of the generations stand before us in the gigantic masses of wealth which excite the cupidity and, too frequently, also, the discontents of the beholders.

299. Laws of investment.—Savings naturally seek investment. Only in the earlier and less settled states of society are men disposed to hoard and hide their savings in order to keep them safe from the prevalent robbery and outrage. When industry feels safe in the possession of its earnings or products, it naturally seeks to gain a profit from its little wealth. Men wish to secure the advantages which may come from the employment or investment of their savings.

Two laws govern all investments, whether put into trade or into property. The first is the law of safety; the second is the law of profit. These two control all investment as gravitation controls the flow of rivers. They determine whether the spare dollar shall go to the hidden hoard, in which safe keeping alone is sought; or to the savings bank, where it is hoped to find equal safety and some profit beside; or to active trade, where more of risk is met, it is true, but where, also, more tempting profits offer themselves.

Safety and profit may be counted as counter-balancing forces in their influence upon investments. They stand always to each other in an inverse ratio. When an investment promises high safety, it promises but small profits; when the profits are high, the safety is small. The reason is sufficiently obvious. Where safety and profit are both small, no one cares to invest. The small returns would not repay the great risks, which mean, also, great possible losses. Where safety and profits are both high, the rush of investments will soon bring down the profits.

Agricultural property is known to have great security. Land can not be easily lost or destroyed; but landed property yields only low profits. Were agricultural investments as profitable

as they are safe, the movement of capital in that direction would soon raise the price of lands to a point which would again make their profits to stand in the inverse ratio of their safety.

Manufacturing capital ordinarily yields greater profits than agricultural, but with less security; and commercial capital, in general, the highest in profits, is also the highest in risks.

Investments are influenced by the business experience of the investor, and also by the social and other advantages promised by the investment; but the laws of safety and profit will, in the long run, be found to be the chief controlling forces in directing the flow of investments in one direction or another.

In times of business depression, investments consult safety; capital is then said to be timid. But in times of great prosperity, and especially when the spirit of speculation is aroused, profit becomes the ruling motive, and capital becomes venture-some and bold. In the days of "Law's Mississippi Scheme," and of "The South Sea Bubble," all classes rushed eagerly to invest their accumulations in the most hazardous enterprises, tempted by the enormous profits promised. Similar periods have occurred in our own country—in the time of the wild land speculations of 1836, and in the railroad speculations between the close of the war and the panic of 1873.

300. Territorial distribution of wealth.—Besides the movements of savings to the various forms of investment, there is a territorial movement, slower in its action, but not less certain in its results, which carries the larger masses of wealth, in one direction or another, across larger spaces of territory, and usually towards given centers of accumulation.

Thus, in the United States, there has been a constant flow of wealth carried with the immigration into the West. A careful estimate would, probably, show that the wealth of the West, for the years before its products became in excess of its consumption, was imported wealth. Even the value which

was thought to exist in its lands was but the reflected shining of the imported capital. But from the moment that its surplus of products began to flow eastward to pay interest, and to purchase goods, western wealth moved, by a strong but certain under-current, to the eastern manufacturing centers and to the seaboard cities.

301. Flow of wealth to cities.—A second form of territorial movement is that which steadily carries the wealth of the country into the cities. This movement is accomplished partly by the removal of population from the country places into the towns, but chiefly by the movements of trade, the products of the rural districts going to the cities for distribution, and leaving there large amounts of values in the form of profits on trade.

At the present moment, another and more powerful cause is at work to carry the wealth of the country into the cities. The cities have become the great seats of manufacture. The cheapening of steam-power has caused the banks of the streams to be deserted, and has left the water-falls to pour their floods in solitude and idleness. Manufacture finds the city a more convenient and more profitable home. At these great centers of traffic and population, the materials can be more easily gathered, the laboring forces can be more readily summoned and supported, and the sale and distribution of products can be effected with more ease and speed.

302. City growths.—Thus, the cities have become wealth-producing, and the enlargement of population, by the new manufacturing hosts, increases at the same time the trade, power, and profits of these great hiving places of civilized life.

No feature of modern life and economic movement is more characteristic or important than this of city growth. If we assume, as we may, that this strong tendency of populations to the cities has developed itself chiefly within the last four decades, the figures given us in the last census will be found instructive. In 1840, the number of cities in the United States with a population of 8,000 and upwards, was 44; in

1880, there were 286. Of the larger cities, in which the manufacturing movement is more characteristic, in 1840, there were six having over 40,000 population; in 1880, there were 45 such cities in the union. In 1840, 8.5 per cent of the entire population was found in the cities; in 1880, the proportion was 22.5 per cent, showing that the city populations increased two and a half times as fast as the entire population. It will be also found that the wealth and manufacture of the cities has increased in nearly the same ratio.

There is a counter current of wealth flowing from the city to the rural districts, seeking safe investment for the surplus of wealth. This movement has been especially conspicuous in England, where the overflow of city wealth has been steadily buying up the lands of England till these lands have largely passed into the hands of wealthy land-holders. So, also, around all the great American cities, there is an ever-widening belt of suburban settlements made up of the country homes of the wealthy classes of the cities.

303. International distribution of wealth.—The final flow of wealth is from the less favored countries to those more favored. The international movement of wealth is by two channels: 1. By migration, and 2. By trade.

The immigration from Europe to America has brought with it large, though unseen, sums of wealth in goods and money. But the chief importation has been the labor power brought by these immigrants. It is uncounted wealth, but it is none the less real or valuable, because not enumerated in the census as property. The rapid development of the resources of this country would have been impossible but for the imported labor-power which has come to us in the voluntary immigration from the old world.

The large and increasing stream of American travel to Europe doubtless carries large amounts of wealth in the other direction. Ten thousand tourists, spending an average of \$1,000 each, will leave in Europe \$10,000,000 of American

capital; and it is claimed that as many as this have sometimes visited Europe in a single season.

But the chief agency of the international movement of wealth is to be found in the international commerce. As all trade between the people of different countries is an exchange of values, it may appear, at first sight, that the outflow of wealth from any country, by the channels of trade, must equal the inflow; but a more careful estimate will show that some countries, by necessities of character and position, are tributary to others, just as the rural districts are tributary to the cities. Peoples using chiefly unskilled labor, and producing coarse goods, pay tribute to more skillful populations.

The grand aggregate of the foreign trade of the United States, in the fiscal year 1881, was \$1,545,041,974, made up as follows:

Exports of merchandise, . .	\$902,377,346
Imports of foreign merchandise,	642,664,628
	<hr/>
Excess of exports over imports,	\$259,712,718

This excess must be paid to us sooner or later in gold, silver, or bonds. The balance of trade and its meaning have already been discussed in a preceding chapter. The question now is to determine in which direction the real flow of wealth is taking place. All foreign trade may be divided, in general, into two great classes: 1. That with nations from whom we receive more goods than we send; 2. That with nations to whom we send more goods than we receive from them. To the first class belong the South American countries, and, in general, the peoples of lower industrial condition and civilization than our own; to the second belong Great Britain, France, Belgium, and most of the European peoples.

During the fiscal year 1881, our trade with the South American states was as follows:

Imports of merchandise and specie	\$81,501,718
Exports of merchandise and specie	<u>25,871,953</u>
Excess of merchandise and specie received by us,	\$55,629,765

During the same year, our trade with Great Britain was as follows :

Exports, including merchandise and specie, \$491,260,473
Imports, including merchandise and specie, <u>217,838,629</u>
Excess of exports to Great Britain . . . \$273,421,844

The excess due from us to the South American states was paid chiefly by drafts on England, drawn against the balance due us on our trade with the latter country; so that our purchases from South America were paid partly by our direct sales to the South American states and partly out of our sales to England.

The goods purchased from South America were chiefly raw materials for our manufactures, and partly agricultural products, such as coffee, quinine, etc. These raw materials were, to us, a source of further wealth, and were imported, therefore, at a profit. Our sales to the South Americans were chiefly manufactured goods, on which we also made a large profit. Thus, while we apparently fell in debt to those states, we probably found a larger profit from the trade than they did. To us it was a source of further wealth; to them it was a means of supply of necessaries for consumption.

Our importations from England were largely of manufactured goods, which were a source of larger profit to England than to us. Our exports were also in large part manufactured goods, on which the profit was ours, though we also sent large quantities of cotton, grain, and meats.

In general, whatever may be the apparent course of trade, the flow of wealth will be found to be from the poorer and less civilized peoples to the richer and more civilized—from those of rude and simple arts to those of higher and more

complicated industries. This movement may be slow and small in amount, but the laws of commerce and of civilization alike determine its direction. Among nations, as among men, the ignorant and improvident serve the intelligent. Wealth flows to the most advanced and most progressive populations.

304. Transformations of wealth.—There remains still another set of phenomena to be studied in the history and final destiny of wealth.

All material things undergo changes. They are in a process of perpetual decay and dissolution on the one hand, and of perpetual growths or renewals on the other. The materials of which wealth is made can not be saved from the forces of decay. From the moment our fabrics are finished, they begin to yield to the destroying powers of nature.

From the hour of its creation, wealth begins then to undergo changes or transformations. Some of these transformations are destructive, and others are constructive or productive.

We have already seen that, in the creation of new values, something of old values must ordinarily be destroyed. We have also seen that under many of the forms of consumption, we have only a transmutation of one form of value into another. The values used up in the feeding of laborers are turned into new labor power. The wearing machinery is constantly projecting its values into the fabrics it is helping to produce. The forms of wealth are changed, in these cases, but its energies and values are conserved. All of these may be styled constructive transformations. They add to, rather than take from, the sum total of man's wealth.

The destructive transformations are of two classes: those which occur by the unintentional action of natural agents; and those which come from the action of mankind.

The destructive agencies of nature include the chemical forces which are found in the air, the water, the heat and cold, and the various chemic laws and agencies which rust, rot, desiccate, and destroy the structure and integrity of the

substances which they attack. They include, also, those vital agencies of infusorial and microscopic life which seem to pervade all things with their spores or germs, and are ever ready to set actively to work on all substantive or material things. To these we may add the predaceous animals and noxious plants, and even the destructive agency of evil men. All of these are embraced in that warning against the short-lived treasurers of earth, "where moth and rust doth corrupt, and where thieves break through and steal." The silent destructive agencies of nature are perpetually working against the products of human labor; and, if not stayed by the hand of constant care and repair, would, in a score of years, destroy nearly the whole accumulation of the world's wealth, and turn the fairest fabrics of human skill into melancholy ruins. It is by the unseen hand of this silent wasting force that a large part of wealth comes to its end.

305. How progress destroys.—There is a rapid destruction of wealth, brought on by man himself, not in the ordinary course of consumption, but by the changes made without intention to destroy. The changes of fashion annually strike from the world's balance-sheet enormous masses of value. The improvements made in machinery consign thousands of dollars worth of old machines to the heaps of old iron. The changes in the styles of building, or of furniture and equipage, send down the values of the older houses and furniture. A change in the route of a railroad, the position of a market, or of the business from a street, works destruction to values once recognized as valid and great. The invention of the steamship sunk, as if in the depths of the sea, the values of the old packet-ships which carried the passengers on their ocean voyage.

There is still another mode of destroying property which is sometimes met. It is in the destruction of the moral or social character of a neighborhood. The presence of a liquor saloon, a gambling hell, a house of infamy, or of any brutal

and degrading establishment, will strike from the value of property around it, half its worth. The change in the character of the government from a higher to a lower plane, the incoming of a rabble of ignorant and vicious people, the growth of public vice and lawlessness, are as destructive to values as is fire or flood.

306. From matter to mind.—The last thought in practical economics, touches that possible transformation of wealth, which transmutes it from material and destructible forms into spiritual and indestructible riches. Through the laboratories of science and the mindcraft of great scholars, aided by the appliances which wealth alone can gain, humanity has stored up a treasury of knowledge and a mastery of forces which could replace in a few months the wealth of the world, should it all be swept away in one mighty conflagration.

And the advance of economic science and economic power has not yet reached its end. In the great store-house of nature, lie facts as grand and truths as fruitful as any already discovered. The world of matter is as yet only half subdued to the service of man. On the pathway which leads from savagery to the highest civilization, it is probable that we are advanced less than half the way. The understanding of economic truths and the mastery of economic organization must go on with accelerated steps, and with accumulating power, in the future as in the past, till the ministry of nature to the wants and progress of mankind shall be more rational, more abundant, and more sure.

The transmutations of wealth into mind-power, into intelligence, into truths discovered and into arts perfected, can not cease. The great economic circle of the industries which began with the impelling wants of mankind, must end where it began, and by all its accumulated power of work, and its accumulated mass of wealth, must push the human wants steadily into higher ground of more intellectual, more moral, more perfectly human and divine, needs and aspirations. As

man appears forever rising above the summit of his highest achievements, so the last and noblest transformations of wealth must be into a healthier, stronger, and purer manhood, a happier humanity—into nobler forms of society, and a diviner life for man. Economic Science will justify its claim to our study, when it shall thus demonstrate its tendency and power to lift society and humanity to higher levels.

NATIONAL ECONOMY.

CHAPTER I.

THE NATION AND ITS ECONOMICS.

1. A nation is not simply a crowd—a mere mass of human beings assembled upon the same territory. A nation is a body corporate—an organic whole, composed of mutually dependent and closely related parts. Herbert Spencer assumes society to be a living organism, and traces the analogies between it and the highly organized animal forms. The nation low in rank, like the animal of low structure, has but few organs. The lowest type of animal is “all stomach, all respiratory surface, all limb.” So the nation, in its rudimentary state, is “all warrior, all hut-builder, all hunter.” In the more perfect animal, there is a division of labor among the parts; each need of the body has its own organ, which serves alone that purpose of the body. It has a special organ for each sense—a stomach for digestion, a nervous system for sensation, limbs for locomotion, a heart for circulation, and lungs for respiration. So, in a highly organized nation or society, a complete division of labor and function takes place.

Fourier, the great French social philosopher, also counted society a living organism, and compared its growth to the growth of the living man. He went further, and presented

an analysis of the passional forces that produce this growth, and proposed a scheme of social organization which should give full force and effect to all the passional attractions that control the several functions of society as an organized whole.

Without accepting, in full, either the idea of Spencer or of Fourier, we must recognize a large measure of truth in both. The nation is in a certain large sense a unit. It is united by many common ties, external and internal. A common territory, a common climate, common rivers, highways, cities, and markets, act as incessant though silent forces to produce community of characteristics, interests, and ideas. A common government, common laws, common systems of education, common institutions of religion, charity, learning, and art, a common literature, and finally, a common name, history, and flag, give to the nation a community of feeling, functions, and powers akin to that which binds the several members and organs of the human body into organic unity.

2. The family of nations.—The individual nation is only one in a great family of nations; or rather, as a living organism it stands confronting other similar organisms, sometimes with common, and sometimes opposing interests. These nations differ in size, situation, resources, interests, ideas, and civilization. They differ also in political, social, and industrial character and power. History is chiefly made up of the record of the rivalries of nations, and of their perpetual struggles for their selfish interests and supremacy.

In the presence of this powerful and august assembly of national units, each nation is called upon to play its separate part, defend its individual integrity and rights, and achieve, as best it may, its individual destiny. In the mighty struggle for existence, each nation is to be treated as a whole. The individual citizen is not recognized except as a member of the organism. His interests are but a part of the general interest; his life but a portion of the common life, in which each must be ready to suffer for all, and all for each.

3. National economics.—In this high and true view of the nation, and of its relationship to other nations, all industries are seen to possess a national aspect and importance, and all wealth is in the last resort a national resource. In the nation's life, work-power and wealth are prominent factors. There is, then, a national side to economic science; or, as it may be stated with equal truth, there is an economic segment in national politics.

As shown in chapter second of our first part, national economy is an application of economic science, rather than a distinct chapter of that science. Its problems involve all the principles of pure economic science, but they also involve principles and factors of the national life which must be taken into account in their solution. It is as idle and foolish to deny this special and distinct character to national economy as it would be to deny the economic feature in national polity. It may not be possible, always and in all cases, to distinguish between pure economics and national economy, since each juts into the other, as we shall see in the next sections; but the broad distinction between the two is easily discernible. Pure economics knows nothing of national lines or interests. National economy holds these as its foremost facts and aims.

4. National work not economic.—Nations, as such, neither labor nor trade, in the common economic sense of these terms. Governments do indeed employ large numbers of people—officials, agents, clerks, laborers, soldiers, and sailors. They also construct roads, canals, harbors, and public buildings; they manufacture arms, munitions, and ships; print documents, bonds, bills, and blanks; and conduct post-offices, telegraphs, and, in some cases, government railroads. They license, and thus control, certain forms of manufacture and traffic; and sometimes, as in France, hold the monopoly of tobacco or of other special products and industries. Prisons and alms-houses are also under government control, and the

government either employs or hires to others the labor of the convicts and paupers.

But with all this immense army of employees, the nation pursues no industry for the profits of it, or for the purpose of increasing wealth. The labor of its workmen, like that of its sailors and soldiers, is employed for general governmental uses and ends, but it is scarcely to be counted as a part of the world's wealth-producing industries, or as belonging to those phenomena which it is the business of the economist to study and explain.

The subtraction of so large a mass of labor-power from the population, and the imposition of their support on the industrial efforts of the remainder, works, no doubt, a large if not violent disturbance of the economic conditions; but this disturbance is to be considered as a question of national economy rather than as a matter of pure economics.

5. National property not economic. — Governments necessarily hold and use large amounts of property. The lands that serve as sites and reservations for civil or military purposes; the large and costly edifices employed as capitols, court-houses, palaces, prisons, asylums, hospitals, school-houses, public galleries and libraries, arsenals, offices, stores, and shops, all these cost millions of treasure to erect and maintain. The arms, munitions, and machinery, the costly furniture, books, pictures and scientific collections held by the nation are of enormous values; but they constitute no part of the supplies in the world's markets, and serve none of the purposes of common capital. They are part of the needful or desirable machinery of government, but they are not property in the ordinary economic sense. They have no place in those great aggregates of wealth which stimulate, sustain, and reward the industrial efforts of mankind.

It is true that the production of this mass of government property, and the abstraction of materials and products from the markets, must necessarily affect, for the time at least, the

ruling prices for such goods and services, and the paying out of large sums from the public treasury must deflect more or less widely the currents of trade; but these are only incidental effects, and are not to be counted as among the ordinary forces of economic science.

Thus, neither in the segment of work, nor in the segment of wealth, does the nation intrude as a proper competing factor; but the industrial life and the political life of a people interlace in so many ways that a study of national progress and civilization can not be made complete without the study of national economy, or the wealth-side of the nation's life.

6. The nation a trustee.—The very existence of the nation, the gathering together into settled habitations of large populations, creates certain franchises and reflected values which belong to the people as a whole, and not to any one man more than to others. Of this character are the water-courses, the public lands, the forests, mines, and fisheries, which the presence of markets has, as explained in the former part of this work, made to become valuable. Among the valuable franchises created by the presence of society, may be enumerated the coining of money, the issuing of paper money, the transportation of mails, the opening of markets, the provision of public highways, the supply of public light, and the importation of foreign goods. Over all these species of property and franchises, the government claims ownership in the name of the people which it represents.

To this property, must be added all possessions to which private ownership has ceased by failure of heirs, and by forfeiture and confiscation. All waifs, treasure trove, lapsed estates, and franchises, go to swell this volume of common property of the whole people for whom the government stands as trustee.

In its character as trustee, the government makes sales of public lands, forests, and mines, issues charters of franchises for the construction of railroads, for banks, and for the public

sale of commodities; provides post-offices and post-roads, and coins and issues money. The exercise of the powers of this trust necessarily sways a powerful influence over the industrial interests and movements of the people. They may often, in great commercial crises, work the well-being or wide-spread ruin of vast business interests. History has many such interferences for good or evil to record. The timely redemption of bonds by the Secretary of the United States Treasury has often saved the money market of the country from disastrous pressure and panics. The English and French governments have frequently interposed their control over the money franchise, and, by a suspension of specie payments, saved the monetary system and credit of their respective countries from collapse.

7. The nation the guardian of property.—There remains one other relation which unites the nation to the economic concerns of its people. All property rights rest for their enjoyment and security upon the protection of the nation and its laws. Whatever natural right a man may claim over the products of his own skill and labor, it is evident that no man, unaided, can maintain his rights against the will of his fellow-men. The nation must, by law, consent to his rights, and protect him in their enjoyment, or his right of property would be an empty, if not a dangerous, claim.

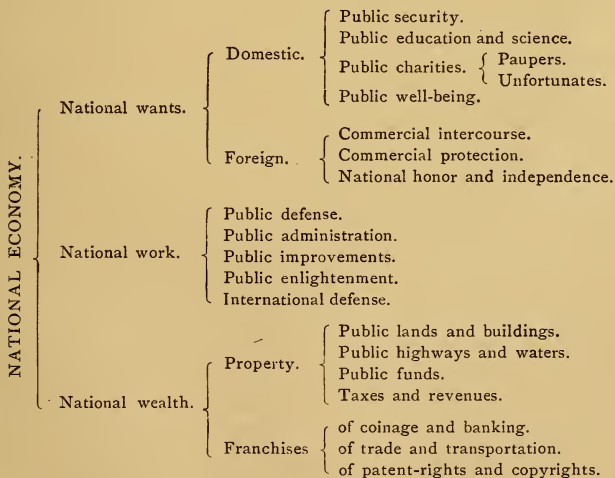
It is evident that this protection, as it costs the expenditure of valuable materials and forces, in the enactment and administration of laws, adds largely to the values of property; and these added values belong, not to the individual, but to the public, or nation, which created them. Society is thus, we repeat, a silent partner in every man's business. What he produces, society protects.

8. The nation the paramount owner of all property.—There is a certain high and sacred sense in which the nation, as the all-comprehending organism, including and sustaining all its many members, is the true and final owner of all property within its borders. Just as it may, in the hour

of peril, summon any of its citizens to stand up in its defense at the peril and sacrifice of his life; so it may also, in similar need, claim the use or sacrifice of property. As we have seen, it was anciently held that all right of property was created by law; that the nation granted property rights to private citizens. Though not all true, yet this view involved a certain amount of indisputable truth. For all great national uses and defense, all property is national. In the failure of other heirs, the nation is the heir of all its people.

It is in the exercise of this paramount ownership that the nation asserts the right of eminent domain, confiscates the property of criminals, and imposes its taxes upon the wealth or incomes of all its citizens.

9. Synoptic view.—Wants, Work, and Wealth, the three great factors of economic science, if taken in their national meaning, will give us likewise the grand divisions of national economy. With their subdivisions, they afford the following synoptic view of the field of this science:



It will be evident, on light examination, that all of the

topics here shown have an economic side—a property as well as a political element; and it is by reason of this economic feature alone they claim a place in national economy. As simple, social, or national concerns they could not properly demand the attention of the economist. They are not all of equal interest and importance in their economic relations, and some of them may seem to have only an indirect and remote relation to economic science.

A full discussion of the entire field would demand a volume. It is the purpose here to treat only of those topics that have been most commonly included in Political Economy, and which will therefore be asked after by readers as necessary to their view of the subject. We limit ourselves to some brief chapters on taxation, and on protection or protective tariff.

CHAPTER II.

TAXATION.

10. Taxes.—A tax is an enforced contribution of private property for a public use. As governments must exist, they must be supported; and as they produce nothing directly, they must be sustained out of the productions of the private citizenship. Government may be counted as one of the wants of mankind, and taxes as the price paid for it.

The cost of good government varies with the extent of territory to be guarded, with the character and proximity of neighboring nations, with the numbers of people to be governed and protected, with the character and civilization of the people, with the variety and extent of the industrial and commercial interests to be conserved, and with the form and spirit of the government itself. The cost of government in a savage tribe is apparently nothing—no taxes are levied or collected—but the possessions are meager, and these are not unfrequently swept away entirely by an adverse war. In a great and rich nation, the cost of government is necessarily large, but the property is immense, and the tax taken from each citizen is usually insignificant in amount.

11. The objects of taxation.—The general purposes for which taxes may be legitimately taken are the following:

1. *Public administration*, including the legislation, the judicial functions, and the general administration by the executive officers of the government.

2. *Public safety*, to be secured by police or military power against foreign or domestic foes.

3. *Public improvements* for the general well-being, by public works.

4. *Public intelligence*, to be promoted by public schools, public libraries, scientific investigations, and scientific and art collections.

5. *Public charities*, or the care of the poor and the unfortunate or afflicted classes,—the insane, the imbecile, the deaf mutes, and the blind.

These are the recognized ends of good government, and are, therefore, the proper objects of taxation.

12. The right of taxation.—The right of governments to levy taxes is commonly supposed to rest upon the duty of each citizen to contribute for the common safety and for the promotion of public order and well-being. Others claim that the government earns its support by the protection it gives; in other words, the citizens hire the government to defend them and their property, and pay the hire in taxes. But, as has been shown, there is a deeper basis of right than this, in the fact stated, that society is a silent partner in every man's business, and does by its presence create much of the wealth which it preserves. Government stands as the representative and agent of society, and in collecting taxes does but take the property of society for the use of society. The amount which it may properly take is limited by the needs of society, as taxes can not be rightfully taken for any other than public uses.

13. Basis of taxation.—Taxes may be considered as imposed upon persons, or upon property. The former, or the personal tax, takes no account of the man's possessions, but claims from him the tax as his payment for the support of government, or for public good. The personal tax may be a simple charge per capita, or poll tax, imposed upon all citizens alike; or may be a license tax paid upon the professional or business calling. The fees charged for official service are sometimes a tax upon the person, as the fee for a teacher's

certificate or a marriage license; but more frequently they are a tax upon property, as are the fees for the inspection of goods, and for the verification of deeds and mortgages.

The second, or the property tax, takes no account of ownership, but asks for a share of the property for the public use. The payment is of course exacted from the owner when he can be found; but in his absence or failure to pay, the property is taken and sold for the tax.

Taxes upon property are of two kinds—the Direct and the Indirect tax. The direct tax is charged upon the person who is expected to pay it, and may be a personal or a property tax. The indirect tax is levied on the manufacturer or importer of the taxed goods, and is usually added by such manufacturer or importer to the prices, to be paid finally by those who purchase and use the goods. - There are large economic as well as political differences between these different classes of taxation.

Another important classification of property taxes rests upon the question whether such tax is assessed upon capital or upon income. The common tax upon property is assumed to be a tax upon capital, and to be paid out of the accumulated wealth. The tax levied upon a man's ascertained annual income is assumed to be paid out of the year's production. In fact, however, all taxes may be counted as paid out of production whenever they and the necessary expenditures of the tax-payer do not exceed his annual product.

14. Systems of taxation. Among barbarous peoples no regular system of taxation is known. Each man is called upon at need to fight for the public defense, and, if necessary, to render public service. The chieftain or ruler, if not satisfied with the income from his own lands, or flocks, or efforts, supplies the lack by the confiscation of goods of his subjects accused or convicted of crime. In other cases, he sells privileges, or monopolies, or extorts gifts, or takes by force of arms from neighboring tribes. Such was most of the

taxation by the feudal chieftains and monarchs in the Middle Ages.

One of the earliest systems of taxation on record is that of the Jews under the Mosaic laws. Under this system, a tithe, or tenth part, of the annual production was paid for the support of the Levites, who included the teachers, magistrates, and priests of the commonwealth. As the state was theocratic, religion shared with the government in the taxes. Beside the tithe, there were certain personal taxes, as a half shekel—about thirty cents—assessed upon every male, and a system of religious offerings made by the individual or family annually or on special occasions.

Among the Greeks, nearly every form of taxation known to modern times was in use, but with much irregularity and many abuses. The Romans also were fertile in expedients to extort taxes, both from their provinces, and finally from the subjects or citizens of the empire. Their custom of farming out the taxes—that is, selling the taxes to some tax-gatherer for a gross sum, and allowing him to extort from the taxpayers as much as possible—was perhaps one of the most effective, but at the same time the most ruinous, methods of taxation ever devised.

The first approaches to the modern systems of taxation were made by Venice and the other Italian republics, which imposed taxes upon lands, and upon manufactures and imports. But taxation remained unequal and tyrannical in its methods on the continent till after the upheaval of the French revolution. Before that revolution, the property of the nobles and of the church was exempted from impost, and less than one third of the property of France paid the entire taxes for the support of government. Few chapters of history are fuller of tyranny and meanness than those which record the devices of the governing classes to possess themselves of the hard earnings of the common people.

15. Ideas of the modern system.—The first clear state-

ment of the principles of a true system of taxation was made by Adam Smith, in the four maxims which John Stuart Mill says "have become classic." These maxims are as follows:

1. "The subjects of every state ought to contribute to the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue they enjoy under the protection of the state."

2. "The taxation which each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought to be clear and plain to the contributor, and every other person."

3. "Every tax should be levied at the time, and in the manner, which is most likely to be convenient to the contributor to pay it."

4. "Every tax ought to be so contrived as to take out, and keep out, of the pockets of the people as little as possible, over and above what it brings into the treasury of the state."

These principles, in conciser terms, affirm that taxation should be equal and proportionate; that it should be certain, clear, and public; that the collection should be convenient in the time and manner of payment; and that the collection should be inexpensive.

It is probable that every law-maker would assent to these general propositions; but a wide difference of view will prevail as to the means of carrying them into effect.

Amasa Walker proposed to add to these rules the following:

"The heaviest taxes should be imposed on those commodities, the consumption of which is especially prejudicial to the interests of the people."

This maxim is the basis of our national tax upon alcoholic liquors—a tax, the policy of which is now violently opposed by large numbers of temperance people. They affirm that the tax meant to be repressive, gives currency and credit to the practice to be repressed, and thus supports it against more direct moral and legal efforts for its entire suppression.

Most of the systems of taxation now in vogue recognize these rules of Adam Smith; but they vary widely in the taxables chosen, in the kinds of taxes imposed, and in the methods of assessment and collection. In the United States we have:

1. Taxes imposed by the general government—embracing import duties, excise taxes on spirits, tobacco, and medicines, and certain direct taxes on persons and property.

2. State taxes—including direct taxes upon lands and other property, license taxes upon several kinds of business, and fees for certain official services.

3. Municipal taxes, imposed by county, township, district, or city authorities, including taxes upon property, poll taxes upon persons, license taxes upon business, and fees of officers.

16. The two difficulties.—The two chief practical difficulties in taxation are to secure (1) equity and certainty of assessment or levy, and (2) ease and certainty of collection. The interests of the government and the rights of the people alike demand that all taxables shall be assessed, and assessed at their true value; and they also alike demand that the tax shall be collected with the least effort and hardship, and in full amount. No system of taxation is wise or even tolerable which does not fairly meet and master these two difficulties.

17. Obstacles to assessment.—The difficulty of fair and certain assessment is twofold: 1. The true measure of values can only be positively determined in open market, where the competing estimates of buyers and sellers may help to correct each other. The assessor who views alone the property to be taxed must often mistake its real values, especially when large estates, houses full of furniture, or store-houses full of goods, are to be assessed. The difficulty is multiplied by the fact that the several districts fall to different assessors, who not only vary in their estimates, but are liable to be influenced by personal or local preferences, or by the desire to favor their friends and their neighborhood by a low assessment of taxables.

2. The other obstacle to full and fair assessment lies in the strong temptation to tax-payers to lighten their tax by the concealment of their wealth. Money and many other forms of property are easily hidden from sight, and thus readily escape assessment. When mortgages or other securities are to be taxed the difficulty is greatly increased. The requirement of the oath of the owner is only a partial remedy, and is open to high moral objections. The usage, said to prevail in some countries, of holding the assessor responsible to the government for any loss which may accrue to it from failure or deficiency of assessment, might be more effective if it were less expensive in application.

In most sections of the United States the assessment is made systematically below the real valuation, lands being assessed at one half, or even one third, of their cash value, and other property in proportion. The object of this is to guard against the deficient assessment of other sections of the same county or state, over which a common tax is to be levied. The practice serves only to confuse still further the entire system of taxation, and to render it more certainly unequal and unjust.

18. Obstacles to collection.—The chief obstacles to the easy and sure collection of a tax lie in the inability of the tax-payers, or in their absence or indisposition. The first is partly met by the exemption from taxation of the household goods and common tools, which constitute often the only possessions of the poorer laboring classes. But the payment of the annual tax is sometimes beyond the ready means of even the small householder, impoverished, it may be, by failure of health or of work. In the densely populated countries this must frequently occur.

In the second case, that of absent or unwilling tax-payers, the time for collection still more frequently goes by, leaving the taxes unpaid. In all these cases, of both classes, no remission of the tax is usually possible, or even thought of.

The tax not voluntarily paid must be collected by law, which means, in modern times, by the distraining and sale of the goods taxed, or a sufficient part thereof to pay tax and costs. And here lies the difficulty. The sale of property for taxes is always expensive, and generally odious to the popular feeling. No kindly man likes to buy his neighbor's goods from the tax-collector; and the sale of lands for the taxes, with the rights of redemption always and justly reserved to the defaulting owner, is so full of hazard and uncertainty that few honorable men care to purchase. The buyer of "tax titles" is, in most American communities, a man of evil repute. He is counted as speculating on the misfortunes of his neighbors, if not as taking selfish part with the government against the people. Even the default of the tax-payer, if poor, is forgotten in the hardship of the enforced tax. The government gets its revenue, but it is only after long delay, and at the sacrifice of some part of its popularity. This last may indeed be little, where the form of government is popular in character, as in this country; but it is still so great that wise and patriotic statesmen seek to avoid or lessen it by merciful and conciliatory tax legislation.

19. Direct taxes.—Of the great forms of taxation, the direct and the indirect, the former is often approved for its apparent equity. It is levied directly upon the person who is expected to pay it, and is either a personal tax upon him as a citizen, or a property tax upon his possessions according to their value. The claim of the government is seen to fall just where it belongs, upon each citizen according to his obligation and ability, and the exact amount and justice of the claim are seen and known of all his fellow-citizens. Its payment is also public, and it thus meets three of Adam Smith's maxims.

It is an additional advantage of the direct tax that its amount can be accurately fixed, and can thus be proportioned to the exact needs of the government. The assessed valuation of

all taxables being known, and the amount of the required tax being determined, it is but a simple problem of arithmetic to apportion this amount fairly among the tax-payers, according to their wealth or business. This particular advantage of the direct tax will always commend it to the states and smaller districts in which the public needs can be nearly ascertained beforehand, and in which it is desired to collect only the exact amount required.

But direct taxes upon wealth have also their disadvantages. They involve all the difficulties of a universal assessment of property, which, as has been seen, are neither few nor small. The apparent equitableness of the tax is almost constantly vitiated by the obvious inequalities of the assessment. So also the publicity of collection is offset by the hardship of that collection. In this respect the direct tax is the most burdensome of all taxes in proportion to its amount. Coming usually once a year, with its inexorable demand for the entire tax of the year to be paid at once, few find themselves able to pay it without a consciousness of the burden, and fewer still suffer the sacrifice of their property to public good without reluctance. Half the satisfaction felt in seeing the tax fall equally on the property of others, comes from the consciousness of its burdensome weight upon ourselves.

20. Income taxes.—The income tax is a direct tax upon the annual revenue or income of the person taxed. It takes no account of capital or wealth, but looks solely to the annual product accruing to the man from whatever source. Amasa Walker has praised this as the most equitable of all taxes, because, as he assumes, each man's ability to pay is proportioned to the amount he actually receives. He affirms that every man can know, and ought to know, almost exactly what his income is for each year, and that he may, without hardship or injustice, be made to reveal that income to the public.

Different opinions will be entertained upon these claimed

advantages, but income taxes have always been unpopular, and have rarely been resorted to by modern governments except under the pressure of some extraordinary need, and then always as a supplementary tax to eke out an insufficient revenue. Were the entire tax for the support of government levied upon incomes, its inequalities would be speedily manifest. Not only would the sight of vast masses of untaxed wealth disturb the public mind, but it would be found that the power to pay taxes is by no means proportioned to the annual income. The poor laborer, whose scant and uncertain wages scarcely meet the most common wants of himself and his family, could not, without distress, pay even one per cent of his income as a tax, while a millionaire might pay ninety per cent without the sacrifice of a single comfort or luxury even.

The governments employing this tax have been obliged to recognize this disparity of power to pay, and they have generally exempted from taxation all incomes under a given amount. They have, moreover, fixed a higher rate of taxation upon the larger incomes. This itself is a public admission that the income is an uncertain basis of taxation and needs to be limited by other considerations than its amount—a serious if not a fatal objection to it.

The chief of these limiting considerations is found in the fact that income must be correlated to expenditures. Equal incomes do not imply equal necessary expenditures. One income may be drawn upon to sustain a single life; another, of like or even less amount, may be required to sustain ten lives. One man may, from choice or necessity of position, be called upon to contribute largely for great social, scientific, educational, or religious interests, and these taxes may be enforced by personal or public motives that scarcely leave him any choice in the payment; his neighbor, with equal or perhaps larger income, may selfishly ignore all these claims, and leave to others the burden of sustaining the civilization

and public well-being from which he, as well as they, draws advantage and profit. This objection lies also, it is true, against the tax upon wealth; but that does not diminish its validity or force against the tax upon incomes where its stress is comparatively greater, since, in general, all taxes must be paid out of annual production.

A final and more serious objection to taxes upon incomes is found in the indefiniteness and uncertainty of the revenue produced. In a year of great prosperity the aggregate incomes of the country may rise to nearly double their ordinary amount, and, in a year of disaster, they may fall to a half. The public revenue would follow the fluctuations of incomes, and the government would accordingly get the double or only the half of tax required for its wants.

21. Indirect taxes.—Indirect taxes, collected by governments upon goods in the hands of the manufacturers, importers, or traders, are paid finally by the consumers of those goods, the tax being concealed in the price charged them. The history of indirect taxes is nearly as old as that of government itself. They were imposed both by Greeks and Romans, and were common through the Middle Ages. They furnish a large part of the revenues of modern European nations, and they are almost the sole support of our own national government. Against many and serious objections, their simplicity of assessment and ease of collection have continued to make them the favorites of statesmen and of the people.

22. Evils of indirect taxes.—The indirect tax is wholly unequal as far as wealth is concerned. It takes no account of capital or of income. The man who drinks his cup of coffee, smokes a cigar, drinks a glass of beer or brandy, or uses any foreign fabric on which duties are charged, pays for each one his tax to the government, whether he lives in a hut or a mansion, and whether he cuts clods or coupons. And in the aggregate, the poor man often pays nearly as much as the

rich, since with his large family he may consume nearly as much of taxed goods as the other. This is especially true if the tax is laid upon the necessities of life. A tax upon luxuries may be avoided by those who prefer to forego the enjoyment of these luxuries rather than pay the tax.

The indirect tax is also grossly uncertain in the revenue yielded by it. As the consumption of the taxed goods must constantly vary with the ability and tastes of the consumers, the tax may yield one year a deficiency and the next an enormous surplus. Such has been the history of the indirect taxes collected by our general government.

It is another objection to indirect taxes that, being paid by the manufacturèr or importer, he must, in order to re-imburse himself for both tax and risk, increase the charge upon the consumer beyond the amount of the tax, and thus multiply the burden upon the real tax-payers beyond the amount collected by the government. This adds a private tax to the public impost.

This tax, moreover, is imposed neither upon production nor upon capital as such, but upon consumption, and therefore directly intermeddles with and influences the industries whose products it taxes. It is not, therefore, a purely fiscal machine for collecting revenue, but is also a governmental agency which may be, and often is, used to repress an undesirable business or to protect a useful one. Its necessary interference with trade may therefore be harmful or beneficial, according to its use.

23. Advantages of indirect taxes.—But while the indirect tax thus violates two of the maxims—that of equality of burden and that of definite yield—it meets more fully than any other the two difficulties of assessment and collection. It levies its tax in the workshop or warehouse of the manufacturer or at the port of entry, before the goods are scattered among many owners. It deals with articles whose amount and value can be nearly ascertained and which have known

market prices, and it holds these goods under official care and control till the tax is paid.

While thus collected by the government without difficulty, it is paid by the people without hardship and almost without knowledge of it. Hidden in the price, and distributed over a great number of purchases, it is paid in small amounts taken day by day, and is thus unnoticed from its smallness as well as its commonness.

This very ease of payment has been sometimes urged as an objection, as rendering the people indifferent to the amount of taxation and the government extravagant in its takings and expenditures. It is assumed that the hardship and irritation of the direct tax will keep the tax-payers vigilant and alert to guard their interests and hold their rulers to strict account.

24. Taxables.—In the practice of different governments, taxes have been imposed upon nearly every class of objects used by mankind. Not only lands, houses, and commodities in general have been counted as taxables, but the house and the ground on which it stands have been taxed separately, and additional taxes, as in France, have been imposed upon the doors and windows. Taxes upon dogs, horses, and other animals; upon carriages and harness; upon watches, musical instruments, and household furniture; on all forms of incomes and of expenditures; upon newspapers and law papers; upon all forms of business and of amusements, have been resorted to in order to secure the required revenue. In earlier times, when possessions were small and taxes were shunned, the ingenuity of rulers was exerted to discover new taxables and new methods of taxation. In modern times many of these are retained, partly with the purpose of distributing the burden of taxation over a wider surface, as it were, and thus lightening its apparent weight; and partly from the desire of equalizing its demands and allowing no one to escape his due share of contribution to the support of government.

The question of the best selection of taxables still remains

one of the most difficult problems of the law-maker. An indiscriminate *ad valorem* tax upon all existing property, without regard to its character, would be a tax upon capital alone, and would leave the great volume of annual production out of sight, except as it is drawn upon by the tax-payers themselves to pay their taxes. What might be paid easily by highly productive property would be ruin to property of low productive power, such as farm lands are, generally, as compared with commercial and manufacturing property. So, also, a tax laid indiscriminately upon all commodities, whether luxuries or necessities, would fall with undue force upon the poor, who must consume necessities almost as freely as the rich, while the latter may forego the luxuries and escape their tax if they will. A man with an income of \$500 must expend nearly all of it for necessities for himself and family. The man who has an income of \$5,000 or \$50,000, having no larger family, will spend little more for necessities, and after all expenditures for luxuries, may still have a large un-taxed surplus.

A tax upon necessities yields the largest and most certain revenue. A tax limited to luxuries might prove so heavy as to prevent their use, and thus cut off revenue and stop production. A large list of taxables may make the tax system cumbrous and confusing, but it tends to distribute the burden and to equalize the pressure. He who unjustly avoids one tax may be caught by another, and thus be compelled to bear his part in the common burden.

25. The unattainable in taxation.—Evidently just, as is Smith's first maxim, and desirable as it seems to tax every citizen in proportion to his ability to pay, the experience of ages proves that this is unattainable. Nearly every inexperienced legislator who is sent to represent the people, comes with the desire to so amend the tax-laws as to force all to pay their proper share of the taxes. He does not see that he desires the impossible. In his determination to allow nothing and no one to

escape, he imposes taxes upon debts as well as upon property, and doubles the burden upon the one he is attempting to relieve. He is attempting to use the tax system as an instrument to punish the money-lender for his extortion, and he frequently only doubles the burden of the extortion; for as capitalists will only lend for the current rate of interest, they secure their end by charging sufficient interest or bonus to cover the taxation, or by stipulating that the borrower shall pay all taxes.

The insuperable obstacles to the exact equality of taxation are these two:

1. The impossibility of a perfect valuation of property according to its tax-paying power; or, of a perfect adjustment of a levy on commodities or incomes which shall bear with exact equality upon all.

2. The readiness with which the tax-payer may, in so many cases, transfer to others the burden of the taxes meant for himself. This latter fact is true, not only of the indirect taxes upon commodities manufactured or imported, and which are expected to be charged over upon the consumers; but it is true also of all those cases in which the conditions of trade will allow the owner of property to fix his own price upon its use or sale. Thus, the tax upon a rented house or farm will be added, when possible, to the rent. The merchant adds the taxes on his store and stock to the prices of his goods, and the licensed dealer collects his license tax from those who patronize his business. In general, it may be assumed that every tax-payer will shift to others as much as possible of his taxes, and no legislation can prevent this without it can change the course of trade and the ever-varying relations of values. All those who live upon salaries or wages, and those whose products, like the farmers', must be sold at prices fixed in the world's open market, must be content to pay their taxes with slight chance of collecting them back from others.

In the long run, the strong tendency of things is to throw the burden of taxes upon consumption. The consumer must pay for his goods all the price they come loaded with, from whatever source that price may spring, and whatever charges it may include.

26. The equilibrium of taxes.—As all things that obey gravitation tend towards a level, so all burdens imposed upon any of the industries of mankind, either directly or through their products, seek to distribute themselves over all. There is thus a law of equilibrium of taxes which tends constantly to equalize, as far as possible, the burden wherever it may have been first imposed.

To illustrate this law, let us suppose a tax, which would be thought most of all unjust, and perhaps least likely to be distributed—a tax upon common labor. Let us suppose that each laborer was required to pay one tenth of each day's wages to the government. The result would be an increase of wages to that extent. The general law of wages, as announced by Turgot, is that wages tend always to the level of the cost of living; and as the tax proposed would act as so much addition to the laborer's cost of living, it must be added to his wages. This, in turn, would increase the cost and price of all things produced by labor, and so the tax would ultimately be paid by all who purchase or consume these products. Instead of labor, let the entire tax of the country be laid upon land; the effect would be to raise the price of every product of the land, and so again an equalization would follow. Let us pass to the other extreme, and suppose the entire tax of the nation to be imposed upon luxuries—upon silks and jewelry, for example—the probable effect would be to so increase the price and diminish the sale as to defeat the tax and compel its transfer to articles of greater necessity. But if we may suppose the enhanced price to be paid, it must be paid at the expense of a nearly equal retrenchment in other purchases; since it can not be supposed that many of

the rich will be found willing, if able, to increase so largely their expenditures in one direction without a corresponding retrenchment in others. Even with the wealthy there is a nearly fixed relation of expenditure to income. The retrenchment would throw the burden of the tax upon the manufacturers and dealers in the retrenched goods, and thence, by various and obvious channels, it would reach out to others till the equilibrium was found.

It is not claimed that this law or tendency is so quick and perfect in its operation as to reduce all inequalities in taxation; but in any settled system of taxes, where the properties taxed are sufficiently wide and various, it may be relied upon to distribute the burden more equally than any legislation is likely to do it. Uniformity, simplicity, and certainty of taxation are more important than any attainable legal equality.

27. Economic principles.—Viewed economically, every tax is an impost upon property and production. It is a price paid for police and protection; or, at best, the payment exacted for certain public conveniences; a charge falling upon the industry and business of the people. All that economy requires is that the charge shall be as light as possible, and shall be collected with the minimum of disturbance of the course of trade. These demands may be stated as follows:

1. The amount of tax should only equal the real wants of the government. A lavish and ostentatious government, that gathers and expends unnecessary millions, disturbs industry both by its exactions and by its large expenditures, thus making a double disturbance of the common course of trade, repressive and stimulating by turns.

2. The collection should be as much distributed as possible in times and amounts. A heavy tax collected at once, if such a thing were possible, would fatally derange business, stopping the payment of private debts, and abstracting so large a portion of the common currency as to block the wheels of trade. The annual taxes collected by the States would work annual

ruin, if, by a stretch of the laws, the collections were not distributed through several months, thus allowing time for the money to be paid out and get again into circulation. As it is, a severe stringency in the local money market is often produced, and much hardship is frequently wrought. A large number of light taxes, payable at different times in the year, would be much more philosophical in principle and easier in practice than the wholesale annual taxation now in use. The indirect tax, paid little by little, as the daily purchases are made, is on that account the lightest of all taxes. The tax system of France is superior to ours by its subdivision of taxes among so many taxables, and its frequent payments.

3. Under strict economic principles the tax should not favor or oppress one industry at the expense of others. Such partiality may sometimes be allowed for a time for national benefit, but it is always in violation of economic principles.

28. National principles.—Viewing the nation as an organism—a body whose parts are knit together by vital relations and mutual dependence, in which the health of each is the health of all, a tax is a process for the transmutation of a certain amount of private property into public safety, public intelligence, public convenience, and public good. It is the contribution which the stomach and working organs pay to the brain and nervous system. It is what the nation costs and consumes in maintaining and working the organism. Its amount, its modes of collection, and its expenditure, must be controlled by the conditions of national life, and yet with a strict regard also to the individual rights and interests of the citizens, since the life of the nation is no other than the grand aggregate of individual lives. The tax taken for the nation is taken from the individual. It is not alone the tariff, or tax upon imports, which affects the domestic manufacturer competing with the foreign. The home tax, which falls heavily upon its labor, materials, or machinery, must diminish the power of any industry to compete with its foreign rival.

The highest problems of taxation are evidently national in character. The tax is taken, as the nation's right, to be used for the nation's good. Its collection is an act of national sovereignty, and it distinctly enounces the national well-being as paramount to all personal and private interests; or, if this statement is preferred, as inclusive of them all. Taken in this light, the national demands are :

1. Taxes, in amount, in time and modes of collection, and in expenditure, should take into account the character and circumstances of the state or nation, its needs, its powers, and its true progress. A monarchy demands a certain stateliness and splendor, which may lend dignity to power and excite the admiration of its people. A republican government should be on a level with the people—simple, serviceable, and without pomp or parade. A people of few industries, such as an agricultural people, can not pay, and do not need large taxes. A commercial nation requires, and can pay more. A people of wide territories and great diversity of employments, can and must necessarily pay larger assessments. Thus a hundred circumstances of national life go in to fix the amount of national expenses.

2. A tax that is needlessly large both oppresses the nation, taking for its governing brain the substance of its working hands, and also injures the government, pushing it into false and feverish overaction or ruinous lavishness. The extravagance of one year becomes the rule for the next; and, having once overpassed the limits of safe and economic expenditures, few governments have the virtue or the courage to return to a lower rate. They are launched on a current ever swifter, and with more fatal and resistless flow. The luxurious government corrupts and then impoverishes the people. It lives an intoxicated, and hence a dangerous and perilous, life.

3. Taxes react on the national character, and ought, therefore, to be adjusted to promote public virtue and well-being. If the tax can be so levied as to repress harmful luxuries or

vices, or to promote helpful industries and public virtues, such ought to be the rule. The certainty of the result ought to be ascertained beyond reasonable doubt, and the limits of personal liberty ought not to be transgressed except to secure a greater public good. No wisdom can make the burdens and benefits of taxation fall with exact equality upon all and to all; but a steady regard for the good of the whole nation will, in the end, compensate for minor inequalities. A true public good is, in the end, universal private good.

4. Taxes are taken to nourish the nation in its whole life—not simply to arm it against its possible enemies, or to provide it with prisons for criminals; but to feed its brain, its heart, and its laboring hands.

The most palpable and conspicuous function of government is to govern—to make and administer laws to secure rights and to guard the life and property of citizens. In this chief function the highest officers of the government and a vast army of officials are engaged; and the very splendor of state which surrounds it, gives to it undue predominance in its demands on the public purse. The expenses of government are almost the only unquestioned objects of appropriation. All other objects are considered by many as beggars sitting at the government gate. Half the immense sums habitually wasted in the luxurious idling, or the party squabbings, of legislative bodies, or extravagantly spent on overpaid and underworked officers and agents of administration, if applied to works of public improvement and enlightenment, would both enrich and elevate the nation.

The government is not the master of the people, but their servant and agent; and, as such, it must be held to effect for the people those great public works which, from their magnitude and public character, private enterprise will not undertake and could not accomplish. All public works, required for the business or the safety and health of the people, may claim their share in the public expenditures as much as the mere

making and administration of laws. In a healthful body, brain, heart, hands, feet, and every organ are equally and impartially fed and nourished.

29. The limits of taxation.—It is evident that there must be a limit beyond which the people could not, or would not, continue to pay taxes. It is obvious also that this limit must be far within the annual net production of wealth, or even the annual savings; for the people will not continue to produce if not permitted to enjoy the larger part of their products; and if savings be made impossible, the spirit of industry will be destroyed. It has been computed that the average annual savings out of the annual production of the United States are not more than 5 per cent. A tax that would average 5 per cent of the production would therefore forbid any increase of wealth, unless it be by enhanced valuation.

No tax should be allowed to diminish or prevent production; but taxation will diminish production long before it absorbs the entire savings. It may be assumed that a thrifty people will make up for a moderate tax by extra industry or economy; but when the impost is greater than they can meet in this way, and they find their savings lessened below their sense of security and need, they will seek to change their employment or their location. The instances are not rare where the incoming of capital has been forbidden, and the more difficult outgoing of labor and capital has been produced, by excessive taxation.

Taxes on future production by the issue of bonds to be paid in subsequent years, are the most frequent means of overtaxation. Public improvements of large extent, or the pressure of war, may compel the incurring of public debt; but such a debt is always an addition to the current taxation of the future, and may easily carry it beyond the limit which the people can endure, without suffering and loss.

CHAPTER III.

PROTECTION AND FREE TRADE.

30. The tariff battle.—The fiercest economic debate of modern times is that between the advocates of a protective tariff and the champions of free trade. After a hundred years of conflict, the battle still rages with all its old violence. Volumes have been written, interminable masses of statistics have been arrayed, and speeches and reports without end have been made on both sides: on the one hand, to prove that a protective tariff is a wise and useful measure of national policy; and, on the other, to demonstrate its public folly and its personal hardships.

On the one side, in this controversy, stand most of the economists; on the other, are found the apparent majority of peoples and statesmen. But the economists are not unanimous; nor indeed are statesmen and peoples.

The tariff battle has been rendered fiercer by the vast amount of capital, invested in great industries, and the armies of laborers held to be concerned in the result. National prosperity, independence, and power are claimed to be at stake, and the work and wages of labor are affirmed to be involved in the issue.

The impossibility, thus far, of reaching a conclusion to which all can assent, proves the difficulties of the problem, and rebukes the assumptions on both sides, of its simplicity and its easy solution. After allowing for all partisanship of politicians, and all mercenariness of manufacturers who par-

ticipate in the debate with selfish motives, there remains a wide and honest divergence of opinions among thousands who wish for light and anxiously seek the truth. It must be patent to all fair minds that there are difficulties in the questions involved, beyond those ordinarily stated by the economists. It would not take the civilized world a century to settle a question so simple and easy as they assume this one to be.

31. Definitions.—Let it be explained, for the benefit of new students of this question, that:

1. *A tariff* is a tax, or system of taxes, laid on goods imported from foreign countries, and collected commonly at the port of entry, where such goods are landed. The word tariff is derived from the name of the Spanish town Tarifa, on the Straits of Gibraltar, where a tax was formerly levied by the Moors upon every vessel passing the Straits.

The tariff taxes, commonly called duties, or customs, belong to the class of indirect taxes. They are made up of *specific duties*, charged upon the quantities of goods, without regard to their values, at so much per yard, gallon, pound, ton, or other measure of amount; and *ad valorem duties*, levied upon goods according to their values, as shown in the bills or invoices of the importers.

2. *Protection*.—This word is used to express some public aid or favor to home manufactures to defend them from losses which might arise from the competition of foreign manufactures of the same sort.

3. *A revenue tariff* is one laid for the sole purpose of collecting revenue for the uses of government, and is properly made up of duties on goods not produced at home, as the tax on these will be paid without interfering in any way with the prices of domestic goods.

4. *A protective tariff* lays its charges on foreign goods competing with home manufactures, and, by adding to the prices of such foreign goods, prevents their underselling and crowding out the domestic manufactures.

5. *Free trade* means, literally, trade with foreign countries untrammelled by taxes or restrictions. But most advocates of free trade favor a tariff for revenue as a convenient mode of national taxation. They only demand that the duties shall not be laid on competing goods.

32. The double question.—The question in debate, in this old controversy, has a double form of statement, as it is seen from one or the other of the two points of view; or rather there is a double issue confounded in the discussion.

The protectionist regards the tariff as a national question. At the bottom of every argument made by him, lies the assumption that there is a national interest, broader and deeper than the individual interest, and that the promotion of this national interest is of importance to all the members of society. He perceives, more or less clearly, the unity of the national organism, and feels in his own life and business the pulse-beat of the national life. If he seems to be pleading the cause of some limited group of manufactures, it is because he wishes to preserve that industry to the nation. His error, if he is in error, comes from his point of view, and it must be answered from the same point of view.

The free trader, on the other hand, looks at the tariff as it affects individuals, either as producers or consumers. He claims that whatever is good for individual citizens will be good for the nation; that the private interests of the people are identical with their public interests. He considers the tariff as a simple tax affecting the tax-payers and their business. If any manufacture can not live without protection against its foreign competitor, he questions whether it ought to live at all. To him the tariff is a tax laid upon the many for the benefit of the few.

It may easily be seen that the issue is not fairly joined in this debate. The answer of each party to the other is, in a large measure, irrelevant. Hence, the arguments of neither convince the other. The economists, as students of Economic

Science, affirm the validity of the great natural laws of trade, and deny that special manufactures can be wisely, if even successfully, built up in opposition to these laws. The protectionists, having in mind social laws and needs, believe the natural laws of trade are insufficient, and claim the importance of public interference to secure results which natural laws would never bring about, or would not effect in time for the national needs. The two doctrines, of protection of industries by tariffs, and of freedom of exchange or trade, are not exact contradictories, since they are not answers to the same question, hence the truth of the one does not prove the falsity of the other, and the falsity of either does not affirm the truth of its opposite.

The subordinate questions, of the effects of the tariff upon prices, present and future, and of the distribution of the burden of the taxation, on which so much of the debate is ordinarily expended, can evidently never be properly discussed or wisely settled till the great main questions are definitely determined.

33. The protection doctrine.—The doctrine of the protection of home industries by means of a tariff on foreign goods rests upon three principal assumptions, or postulates, as follows :

1. The interests of the nation, as a united body of people—a living organism—require something more than, and different from, what is required by its individual citizens.

2. These national interests demand a wider and earlier diversification of industries than the natural laws of life and trade would, of themselves, bring about.

3. A tariff or tax upon imported goods is a wise and effective means of securing and preserving the home industries desired.

If any one of these postulates fails, the doctrine of protection must fail with it. Their united force is required to support the conclusion. If they can all be sustained, in their full in-

tegrity, the doctrine will stand unassailable. The importance of the consequences involved, as well as the economic interest of these postulates themselves, demands their careful scrutiny.

34. First postulate, national interests.—It may be admitted that the common sense of mankind, as shown by the history of all peoples, recognizes such a thing as national interests distinct from, and overtopping, individual interests. Everywhere and in all communities, men have felt that there is a common safety, which includes indeed the individual safety, and for which they may rightfully be called to fight and die if necessary. They have also recognized a common well-being of society, higher than any personal well-being, to which all may justly be required to contribute of their personal wealth and service. This common well-being is made up of the common security, the public order, morals, and intelligence; the general supply of products and of work, the public improvements and conveniences, and the national power, reputation, and independence. All this is something more than the sum total of private and personal qualities, possessions, and condition.

It is true that public interests are made up of private interests, but not of merely personal interests. To the interests and rights belonging to the man as a living being, must be added those which belong to him as a social being and as a member of society. These latter often lie outside of his personal possessions and immediate surroundings, but are nearly as necessary as those to his development and happiness. In trade and industry all things may seem personal, but the interests of industry and trade can not be separated wholly from other personal or public interests. The whole man enters into society, and must be protected and considered in his entirety.

What we call public interests belong to separate groups, or rather, to different concentric circles of different diameters.

The man has certain interests in common with his village; other interests in common with his township; others still in common with his county and his state; and, finally, others which belong to the nation. Wise men recognize all these, and seek to promote them in some proper way. The villager often strives to increase the prosperity of his village by seeking to secure immigrants, or by offering a bounty to manufacturers. He promises himself both personal and public advantage from the increase of population and wealth. It is true that the smaller community sometimes needs protection from the other communities united with it in the large community of which they form part. A tariff between states, or even between counties, would sometimes defend one against the overmastering competition of the other; but this rather increases than invalidates the force of the argument for national protection. The clear recognition of the narrower public interest which every man can see and appreciate, opens the way for the admission of the wider national interests which only a few are intelligent enough to see in all their breadth.

It is not needful here to enumerate all the interests which belong to a civilized people; but we may name, as involved in the present discussion: 1. An abundance of work for all workers, and wages for their work. 2. A sufficient diversity of industries to utilize all natural resources and give employment to all talents. 3. An abundance of wealth to meet, without hardship, all necessary taxes for the public good and safety. 4. A sufficient common intelligence and civilization to properly enjoy and maintain the form of government chosen by the state. 5. An equality of condition with confronting nations, that may protect from their hostility, and prevent them from imposing undue burdens, or winning undue advantages from age or position. The rival nation is a factor that can never be left out in any complete estimate of our national interests and concerns. And as nations, like corporations, are soulless, and are generally actuated by selfish motives, it is

all the more necessary to take their conduct and condition into account in studying our own. If we have national interests, they have national interests also, and it is not impossible that the one shall conflict with the other. The conquest of arms is not the only form of national aggression. There is a conquest of commerce more frequent and nearly as fatal to the subjugated nation.

35. Second postulate, — diversification of industries.—The national importance of a variety of industries among the people does not need argument. In a general sense, all parties admit it, however they may differ as to its desirable extent, or as to the means of securing it. To give the largest amount and variety of employments to the people; to properly utilize all the resources of the country, and to furnish at home the markets for the several productions of labor, are objects so palpable that no one will deny them. The higher influences of diversity of employment on national civilization, and on national power and wealth, may not be so obvious, but they are equally true and important.

In a savage state, and in the first stages of colonial life, the industries must be few and simple. The savage contents himself with few gratifications; the colonist imports most of his from older countries. Manufactures require both capital and skill, and there is usually a dearth of both of these in a new settlement. Increase of population usually brings increase of wealth and of intelligence, and so industries naturally advance in quality, multiply in amount, and divide into separate branches. But history shows that new populations are slow in introducing new industries widely different from their own. It shows, also, that the migrations of manufactures have more frequently been due to some fortunate accident, than to natural causes or the laws of trade. England owes her silk and woollen manufactures more to the immigration of Flemish and Huguenot fugitives than to any natural growth in her industries.

It is possible that all the forms of industry to which any country is naturally adapted, might, in time, come in by the laws of trade; but generations and centuries must often elapse before the result would be reached. The assumption of the protectionist is in keeping with the facts of history; the national interest demands a wider and earlier diversification of the industries than the natural laws of trade would produce.

36. Third postulate,—the tariff power.—The third assumption is by no means so clear, and so nearly self-evident as the two former. A tax upon imported goods is, at best, only an indirect way of producing or promoting new industries. As shown, many years ago, by President Wayland, a tariff does not directly and necessarily increase the capital or the labor-power and skill of a country, and these are the immediate and only indispensable conditions of founding a new manufacture. Such a tax may stimulate and sustain a manufacture already started, by securing it a better price for its goods; but it will not certainly lead to the establishment of new manufactories. Indirectly, by raising the prices of goods of the sort taxed, it may induce capitalists to import or employ capital in their production; and such is the way in which the tariff is expected to accomplish its results. It is claimed that the silk manufactures, and some others, were introduced into this country by this means. Whenever unemployed capital is sufficiently abundant in the country, it may be assumed that it will seek investment in new industries as fast as they become profitable and safe. So far as the tariff secures to them this safety and profitableness it promotes this investment.

37. Is the protective tariff wise?—To judge of the wisdom of the tariff as a means to the desired end, it must be compared with other means available for the same end. Three other methods have, in different cases, been employed to secure the establishment of new industries: 1. A direct donation to the capitalist to induce or aid him in the founding

of his manufactory. 2. A bounty paid by government for each given amount of goods manufactured. 3. A release from all taxes upon the capital or labor employed in the new industry.

Each of these three methods has an advantage over the protective tariff in the certainty of result, for nothing is paid till the result is assured. Under the tariff, the tax must be paid upon all goods imported, whether it induces home manufactures or not; but no one is pledged by it to introduce or maintain any new industry.

It is a second advantage that all the money paid under either of these three is given directly for the purpose in view. Under the tariff, all the money collected by the tax goes to the government, and the manufacturer gets his aid by imposing a similar tax upon his customers in the higher price of his goods.

A third advantage of these methods lies in the definite amount of the taxation imposed by them. As we have just seen, the tariff imposes a tax upon all the imported goods for the benefit of the government, and allows the imposition of an equal or greater tax by the manufacturer upon all the goods produced by him. This may greatly exceed the amounts actually required to secure the establishment and support of the home industry.

On the other side, the protective tariff has some advantages over the other methods proposed: 1. As an indirect tax for the support of the national government, the tariff has strong claims; and to make it protective, needs only to distribute it upon the goods competing with home manufactures. 2. The machinery for the assessment and collection is a common and necessary part of the machinery of government. Custom-houses, and custom-house officers belong to the ordinary arrangements for the management of the commercial intercourse with foreign nations. The use of this common machinery in the way of a protective system for the promotion of domestic manufactures, does not compel the establishment and maintenancé

of any new system. 3. The operation of the protective tariff, though uncertain in its results, is simple and easy in its working. The other systems, though more direct and definite, would involve great practical difficulties in their operation, and be liable to great abuses. It is doubtful whether more serious complaints would not be raised against the direct donation to capitalists from the public funds than have ever been made against protective tariffs.

The advantages and disadvantages of the protective system being so nearly balanced, the decision as to its wisdom must rest finally upon its efficiency. If facts prove that it is effective, it must be approved; but, if it can not be shown to be efficient to the end proposed, it must be condemned. At the last, therefore, it becomes a question of fact, to be settled by statistics.

38. The postulates of free trade.—To complete our fundamental view of the principles involved in this discussion, it is necessary to inquire what are the postulates on which the arguments of the free traders rest. These postulates are as follows:

1. Freedom of trade or of exchange is freedom of labor and of industry.

2. If exchanges are left free, men will do those things that they can do best; they will devote themselves to the industries for which they and their circumstances are best adapted.

3. Each land and nation has special industries for which the people by nature, or by their circumstances, are peculiarly fitted, and which they ought to pursue till, at least, the natural laws of trade shall lead to the introduction of others for which they are equally fitted.

Free trade also makes several assumptions which are rather to be counted as objections to protection, and which must, therefore, be answered as such. But, first, let us examine the postulates already stated. On the truth of these, the doctrine of free trade must mainly rest; though, if they fail, their

failure does not establish the doctrine of protection by tariffs, because, as we have seen, the two doctrines are not perfect contradictories.

39. First postulate—Free trade is free industry.—This postulate implies that human industries have no other barriers than those imposed by the restrictions on trade, and that if men are left free to buy and sell when and where they please, they will be free to change their employments as they may choose.

To this it must be replied that the great hindrances to the changes of employments are found in the immobility of labor and capital. It is well known that laborers, in general, move reluctantly and with difficulty from one locality to another, and that the passage from one employment to another is still more difficult. So, also, capital is not easily shifted from one investment or industry to another. It fears loss in untried channels, and prefers safety to uncertain profits. No freedom of trade can increase the mobility of labor or the confidence of capital. The industries love beaten and familiar paths. Men follow easily the employments of their fathers and predecessors. Restrictions upon trade may force them into new labors to secure the goods they are not allowed to buy; but the removal of the restrictions will only leave them free to go on in the old ruts.

40. Second postulate—What men do best.—The second postulate affirms that there are things which each man can do best, and that he ought to be left free to do those things instead of others which he can do poorly, if at all. It assumes that if men are permitted to exchange their products freely, they will drift naturally to these best and most profitable employments. Thus, a hatter can make hats well, but he can make boots only poorly, if at all. If left free to follow his own good sense, he will spend his time in making hats and exchange them for the boots and other products which he may need. But it is not always true that men's old and

wonted employments are the most profitable in the long run, even if it is true that they can, for the time, do that best which they have best learned to do. The wild Indian can doubtless hunt and fish better than he can raise wheat or rear cattle; but who will say that it is best and most profitable for him to follow his old savage ways, and continue forever to hunt and fish? Every advance made by any nation in its arts has been achieved by leaving the things it could do best, and learning to do something it could not formerly do at all. Certainly, there is a sacrifice which always accompanies a change of employment; but the question is, whether the final gain does not compensate for the immediate loss? If there are in any country more hatters than there is market for hats, the change of employment may be a necessity for some of them, however well they may know their trade.

41. Third postulate—The best national industries.—The third postulate is only an extension of the second; but it seems to have an additional force from the known diversities of climates and productions of different countries. It affirms that natural causes, found in environment or character, determine the industries of peoples, and that these causes, or the natural laws of trade, will introduce new industries as required. China raises tea, and Brazil coffee. Why not leave tea and coffee raising to these nations, and we follow our natural industry, if we have one, and exchange its products for tea and coffee? Our rich prairie lands mark us for agriculture; is not England equally marked out for manufactures? Ought we not, then, to sell the English people our corn and buy their cloths and crockery?

The answer has already been given in part. What has been said of the individual is true also of the nation. But a further answer is required to the new features of the inquiry. It is true that climate and soil determine the territorial limits of some of the agricultural industries. It is useless to plant cotton in New England, or maize in Great Britain. The

character and habits of peoples, also seem to adapt them to certain special classes of industry. 'The makers of the Persian carpets, of the Indian shawls, of the Flemish laces, and of the Chinese porcelain seemed for centuries to have no successful rivals. France still claims a supremacy in certain cloths, silks, and gloves; Russia in its peculiar iron; Japan in lacquer ware, and England in a score of articles.

The truth seems to be that agricultural industries depend largely upon soil and climate, and a few hand arts are special to certain countries and peoples, either by natural characteristics, or by long use and the skill resulting therefrom. But the great part of manufacturing industries are cosmopolitan in character, and may be prosecuted successfully by any people whose situation allows the necessary accumulation of capital, and whose civilization favors the acquisition of the needful skill. Nearly all of the arts are now spreading themselves throughout the world, and scores of peoples are now contending for markets formerly possessed exclusively by one.

The introduction of new industries, it is claimed, will be brought about by natural causes and the laws of trade. New manufactures, it must be admitted, do gain foot-hold in all civilized lands, whatever be the commercial or governmental policy of those lands. In some cases, bold and adventurous artisans or capitalists undertake the introduction, and, after more or less of disastrous failures, succeed in naturalizing the new art. Little by little, the art is improved; new processes and machinery are invented; new capital and skill are gathered around it, and the small beginning becomes, in time, a great national industry. As the wealth and population of any country increase, the industries of that country necessarily divide into branches and multiply in number and extent. The natural desires and cultivated tastes of men demand higher gratifications with every increase of means; and the imitative spirit of mankind impels to the borrowing of the arts of neighbors near or remote.

But it is obvious, from history and from contemporary observation, that the adopted policy of some nations favors the introduction of new forms of industry, while that of others repels it. In earlier days, new manufactures were often looked upon as innovations to be feared and watched; in modern times, they are sought for as new sources of wealth and power, and are welcomed as advantages to citizens and to state. Protective tariffs grew out of this modern spirit, and are attempts to give government aid to the introduction of new arts.

Looked at closely, the conditions of the establishment of any manufacture will be seen to include: 1. *Capital*. 2. *Skilled labor*, and 3. *Market*. Capital sufficient to provide machinery, buy materials, pay labor, and meet all expenditures till a market can be reached, is a first requisite; and this capital must be created by other industries, or it must be tempted from concealment, from other investments, or from foreign lands. Skilled laborers to build and run the necessary machinery, and to perform all the processes of the art with sufficient expertness, must be imported from abroad or trained up at home. But goods will not be made without a market; and where the competition is large and serious, it is sometimes very difficult for a new manufacturer to secure a market against the rivalry of old and well-known competitors. A market also implies an adequate demand, and remunerative prices; for no one can continue to manufacture if only half of the product of his mills can be sold, or if they must be sold without profit.

All of these conditions are costly at the outset, and the burden of this cost must fall upon the manufacturer, or upon the public. The progress of trade and wealth doubtless tends to lighten them all, and might, in time, overcome them. The protective tariff proposes to throw their weight upon the people at large, and thus secure a much earlier victory.

Such are the answers that science is bound to give to the

postulates of free trade. As in the case of the postulates of protection, they leave some questions of fact to be settled by statistics, and, therefore, fail to end the debate by a final and conclusive answer.

42. Objections to protection.—Free trade interposes other serious objections to protective tariffs, and as these objections make up no small part of the common arguments, it becomes the more important to consider them. Even if the assumptions of protection are, for the main part, true, and if those of free trade are chiefly inadequate or unsound, it still remains that protection is nothing but a device to accomplish a given desirable result, and if the objections to it overbalance its advantages, it ought to be abandoned.

1st Objection. The protective tariff imposes a tax upon the many for the benefit of the few; that is, upon all consumers for the benefit of the few manufacturers. This objection is evidently irrelevant, since the avowed purpose of the tariff is to aid the manufacturer by laying the burden of introducing and maintaining the new manufacture upon the people at large. But the objection is also false in form. It is a complaint against the inequality of the burdens and benefits of taxation, and, as such, will lie in some sort against every tax imposed by government; for no tax ever was, and none ever will be, equal in its bearing upon all.

A defensive war may be absolutely necessary to the safety and life of the nation, but its burdens will fall with terrible and destructive force upon some, while it will enrich others. The proper question to be raised is not as to the taxation, but as to its object; and this is equally true whether a tax is laid to defend the nation or to promote the industries of the country.

2d Objection. A part only of the money paid by the people comes into the public treasury, the greater share going to the manufacturers; that is, all the advanced price paid on the imported goods taxed goes to the government; but all paid

for the goods manufactured at home goes to the manufacturers. This objection is also irrelevant. The very object of the tax is to raise the prices of the goods produced at home in order to induce their production. The aim and efficiency of the tax, and not simply the tax itself, must be the ground of objection. If the protective tariff does really introduce and support domestic manufactures, it accomplishes that for which it is levied and in the way proposed. It might be proper to object that the tax is inordinate; or that it does not accomplish its purpose, which would imply that it is too small. But to object to any protective tariff at all must properly be based upon a denial of the object of such taxation.

3d Objection. The protective tariff interferes with trade, and, hence, with the natural course of industry, forcing men out of employments which are profitable, and into those which are unprofitable. It is sometimes added, that the people, by doing what they can do best, will get the foreign goods which they desire, cheaper than by attempting to make these goods for themselves. This objection again is irrelevant. The purpose of the protective tariff is to interfere with the natural course of industry in order to introduce new industries. It seeks to compensate some men for turning away from industries in which they may be expert, to others which are strange to them. And it seeks to do this for a greater good which it hopes to attain for the people and the country in coming times.

The interference with a natural course of events, that is, with the blind action of natural causes, is not necessarily wrong or evil. All human civilization has come from such interference, in putting men upon doing things which the savage does not do by nature, or in restraining them from courses which savage nature allows.

There are many forms given by different writers to the above objections; but they may all be readily reduced to these forms, when the same answers will apply.

4th Objection. It is impossible for any statesmanship to so adjust the terms of a protective tariff that its advantages shall always fall where they are most needed, and that its burdens shall not equal or overpass its benefits. This objection is direct and serious. It discredits the claims of protectionists on their own grounds, and, if fully sustained, must go far to overturn their theories. A remedy which exceeds the skill of human beings to apply successfully and safely is no remedy at all.

It must be admitted by all candid men that the difficulty with our tariffs has been their cumbersomeness and their inequality; and it has thus far been beyond the power of our National Congress to enact a tariff law free from these objections. But it will be answered that the same imperfection attaches to all human legislation, and that any other method of effecting the same public purpose would necessarily lie open to the same difficulty and objection. Most of human action proceeds upon probabilities, and must, therefore, be uncertain in its results. Thus again we are brought to a question of fact to be answered by statistics.

43. The true questions.—If the foregoing discussion is sound, then the real questions to be answered are these two:

1. Is it proper and wise for a nation, through its government, to attempt to promote the diversification and growth of its industries?

2. Does experience prove that a protective tariff does efficiently promote the diversification and growth of national industries?

All arguments and objections that do not touch one or both of these two questions are irrelevant, and out of place in the discussion. All objections to the inequalities of taxation; all complaints as to the benefits or burdens of the taxes imposed; all affirmations as to how individual men can buy cheap or sell dear; all these, and many others with which economists have filled their volumes of debate, belong to other questions, and have no proper place in this debate.

It is the perception, by people and statesmen, of this irrelevancy of the arguments and objections of the economist which has robbed those arguments and objections of their expected force, and led to the condemnation of their authors as mere theorizers and *doctrinaires*.

44. The national question.—The first, or national, question has already been partly answered in a previous chapter on the organization of the nation. Different views are held by statesmen as to the functions and powers of government, and different opinions will prevail as to the wisdom of government interference in matters of trade and industry. Admitting, as we must, that all taxation involves incidental interference with industry, it will still be asked whether the aim of the true legislator ought not to be to render this interference as light as possible, rather than to attempt to employ it as an agent of restriction or impulse.

The industries of the people fill the chief chapters in the national life. They occupy and sustain the population, and furnish to the government its chief objects of legislation and oversight. It must burden these industries with taxes for national good; may it also foster them for national good?

The extension and prosperity of the industries concern almost equally all classes of citizens; for they include not only the questions of production and wealth, of ease and comfort, but also of work for workers and of wages for work. The industries underlie and support public order and well-being, education, good and cheap government, civilization, and the very existence of society. No question can be more national in character, more universal in application and influence, than that of their prosperity.

If government may at all undertake this work of promoting the industries, then it may surely lay taxes and impose restrictions needful for the purpose. This is no further interference with private liberty than the nature of the case requires.

It is plain that the protection, to be wise and just, must take into account the present industrial condition of the nation. A protective tariff among savages would be an absurdity. They have no manufactures, worthy the name, to protect, and they have neither the wish nor ability to engage in new ones. Nor, at the other extreme, is protection necessary to a people who overtop all rivals in their manufactures. As the savage seeks a free foreign market in which to buy his powder and shot, and his meager supplies so the great manufacturing nation, outrivaling all others, seeks free foreign markets to sell its surplus. The savage's home market does not yet exist; the home market of the great manufacturing power is fully preoccupied.

A German writer has suggested that there are different stages of national progress that need to be taken into account in settling the policy of a protective tariff. We may easily discriminate three such stages in which the question will wear a different aspect, and demand a different answer: 1. The barbarous or nomadic stage, in which the nation or tribe has no manufactures to protect, and does not care to introduce any. 2. A middle stage, in which the nation has begun to manufacture, and in the presence, as it were, of the older and more advanced nations to which it has served hitherto as a market. Its young and feeble manufactures, feeble in capital and skill, without foreign market and insecure in their own, must evidently languish through a long and uncertain infancy unless helped by the public or protected by the government. 3. A final stage, in which the nation, after years or centuries of experience, has grown rich in capital, is full of inventors and machinery, and has armies of skilled laborers at command, and, besides all this, has the run of the markets of the world. To such a nation the term protection is without meaning, since they have no rivals to fear, unless it be in foreign markets where their protective tariffs could not apply.

These stages of national industries may, in some sense, be found also in each one of those industries. Any manufacture, in its infancy, may need protection against its foreign rivals; but when it has grown strong, and, filling its own home markets, it goes forth to the conquest of other markets, protection is to it an insult, if not an absurdity.

The doctrine of protection loses all its significance and reasonableness when it is applied to industries like this. If by any means the nation, or any one of its industries, has relapsed into the feeble stage, or if openly hostile measures have been taken against such industry by its foreign rivals, the case is changed, and protection may be invoked to ward off the threatened evil.

45. The question of fact.—As has been shown, the whole tariff question resolves itself at last into a question of fact. “Does protection protect?” Does the protective tariff do what it is designed to do? Does it increase and promote the national industries? To this question a vast amount of statistical answer has been given. The history of the civilized nations for centuries has been ransacked, and the example of each has been put in evidence on both sides. But, unfortunately, there are so many other causes that enter into the production of each claimed result, that the full influence of the presence or absence of a protective tariff can not be fully ascertained. There lies before me, as I write, three separate accounts of the industrial policy and condition of the modern German Empire. The first states that it has only a low tariff and is virtually without protection, but is, nevertheless, in a very prosperous condition. The second affirms, on the authority of a German writer, that “Germany is perishing,” and gives as the cause of her condition, her adherence to the protective policy. The third, in a popular work on Political Economy, asserts that Germany presents a splendid example of the prosperity which follows from free trade. With such careless discrepancy of statements meeting us on all sides, and

in nearly every case, it will not be wondered at that the question of the influence of a protective tariff is still the battle-field of economists and statesmen.

In the United States the difficulties of the tariff question have been greatly increased, and the controversy has been embittered by the division of the nation into separate States, each claiming a modified sovereignty, and each having such an extent of territory and such a diversity of soil, position, and climate as to render it almost a separate people. The tariff that has protected one has oppressed another of these States. The manufacturing States have asked for protection; the agricultural States for free trade. Sectional and partisan strifes have distorted facts and obscured the vision, and the question has been one of sections rather than of science. Private greed has purposely added to the confusion, to get gain; and the real arguments and issues have often been lost from sight. The progress of new manufactures in the Southern and Western States is now turning them into tariff advocates, while New England, having reached the third state of manufacturing life, is becoming free trade in its views.

TO THE TEACHERS OF POLITICAL ECONOMY.

Political Economy is not a science for children. As you know, its study requires more knowledge of human affairs and a wider observation of business than are possible to the very young. It is not necessary, therefore, that its text-books shall be written in the familiar style or with the extreme simplicity of statement demanded in books for primary or intermediate instruction.

The study finds its proper place in the higher classes of the high-schools and colleges. It asks and repays the thoughtful study of grown men and women.

It belongs chiefly to the class of Subjective Sciences, and as such it demands a large use of the student's reflective powers. This is best secured by frequent, if not daily, requirement of original answers in writing, to specific questions on the principles and applications of the science. Without abundant writing, such studies are rarely well done. Every chapter; and nearly every paragraph of this volume, furnishes topics which may well be filled out with further study.

But Political Economy has a large practical side allying it to the Sciences of Observation, and hence the student should be required to observe carefully and report intelligently the economic facts of his own neighborhood. He ought to be able to interpret the fluctuations of values, the money phenomena, and the economy of the industries of the vicinity.

It is also a Statistical Science, and demands a training in the proper study and use of statistics. The statistical tables in this volume are not to be memorized, but they will afford practice in analyzing, comparing, and interpreting statistics—one of the most difficult arts of statesmanship. Statistics represent facts in masses. Their accuracy should be beyond question; their relations should be fully considered, and they should be so arranged and classified that their real significance is seen. He who wields well statistics, wields arguments of unanswerable power.

QUESTIONS AND QUESTIONING.

In more elementary books and branches of study, it is common to provide questions in the book; but in advanced studies, in which the students are expected to make their own analysis, prepared questions are of little use, and may be injurious. They may tempt the pupil to forego that very effort at analysis which is the most useful and important part of his work. Better to require of the student to make out for himself a list of questions or topics which shall touch the very heart of each section and paragraph.

The art of teaching is, in large part, the art of asking questions. No one can teach well who can not question promptly and wisely. The aim of questions is threefold: 1. To awaken thought and attention; 2. To ascertain what the pupil knows; and 3. To correct and instruct. If the teacher is a master of his subject and book, he will easily make his questions as the work goes on; but, if a pressure of other work, as is too often the case in high schools, prevents such mastery of the lesson of the day, questions should be prepared beforehand. Let the teacher read through the chapter, pencil in hand, and, at each paragraph jot down on the margin, or on a separate sheet, the question or topic which will bring out the truth or principle involved. Such questions will serve him better than any that any author can prepare.

THE CARD SYSTEM.

This system is one of the most convenient for ordinary questioning, or for reviews. Let the teacher procure a good quantity of blank cards, a little smaller than common playing cards; on each of these cards let him write one or more of the questions on topics above described, numbering the cards for his own convenience. The questions and topics should be such as will fairly cover the ground of the instruction.

At the opening of the recitation, a card may be handed to a student in place of an oral question, and a full answer required thereon; and so on till the lesson is completed. Or each student may be required to draw a card in turn, at random, and answer at once the questions drawn. In this latter case, the cards may first be shuffled, and the questions, coming out of order, will more fully test the student's mastery of the lesson.

REVIEWS.

No teaching can be successful that neglects constant, daily, persistent reviews. The unalterable laws of mind refuse accurate and permanent knowledge of any book or subject, on any other conditions than this.

He who reviews best, teaches best; and commonly the teacher who reviews most, teaches most.

The first review should be made the next day after the lesson is recited. It need occupy but a few minutes, if the lesson was well learned, but it should show that the subject is understood and remembered.

A partial, miscellaneous review may be made at any time when the hour of recitation is not fully occupied, by distributing a few of the cards, and requiring the students to answer promptly the questions they chance to draw. A little care in the use of the cards will enable the teacher to pass the whole subject again and again in review in the course of the term.

As often as once a week, at the outset of the term, the whole hour should be given to the review, and the cards will afford the means of making this review thorough and searching. These frequent and thorough reviews the first half of the term will make the progress of the latter half rapid and safe.

No harm can come if the students copy the cards as they frequently are inclined to do. If the questions are wide and general, covering fully the ground, the special study of the answers will give a good body of the subject thorough lodgment in the mind; and a few oral questions will prevent mere memoriter learning.

One of the most useful reviews may be given by requiring the pupils to reproduce on the blackboard, from memory, the tabular or synoptical views given in this volume. It will tend to systematize and keep in order the student's knowledge of the subject. These synoptical statements on the blackboard afford also a good method of recitation by requiring the students to explain the topics in their order.

THE BOOK.

This volume, designed to afford a somewhat full discussion of the subject, for the general reader as well as for the student, presents, in some cases, a wider discussion than is needed for the class-room. The author, therefore, advises the omission, at least in the first study, of such parts as the teacher may choose to omit. This may sometimes be whole chapters, and, in other cases, paragraphs or parts of chapters. The coat must be cut according to the cloth. If only a single term can be given to the work, only a portion of the book can be mastered.

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